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A STUDY OF THE DEALER MARKET FOR
FEDERAL GOVERNMENT SECURITIES

MATERIALS PREPARED
FOR THE
JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES



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LETTERS OF TRANSMITTAL

DECEMBER 30, 1960.

To Members of the Joint Economic Committee:

For the information of the members of the Joint Economic Committee and others interested there is transmitted herewith an analysis of the operations of dealers operating in the market for Federal Government securities.

As you know, the study grew out of the reports collected from the 17 dealers in Government securities in the fall of 1959 to supplement the information obtained in the committee's hearings which were conducted in connection with the study of "Employment, Growth, and Price Levels."

This study of the Government securities market is a pioneering one and should be of permanent value as a source of information in understanding the market for Government securities. No other study of comparable scope has ever been made of this market. The Federal Reserve-Treasury study which was reported to the committee during its hearings in connection with the study on "Employment, Growth, and Price Levels" provided much information about the Federal securities market and the developments in the market during 1957 and 1958. The current analysis covers the entire period from 1948 to 1959 and interrelates the factual material from the dealers with other information obtained by the committee in its hearings and with the Federal Reserve-Treasury study.

This study will be valuable to those concerned with analyzing the behavior of this market, to those charged with management of the public debt and with monetary policy, and also should assist in the development of a uniform and regular system of statistical reporting for this important market.

PAUL H. DOUGLAS,
Chairman, Joint Economic Committee.

DECEMBER 19, 1960.

Hon. PAUL H. DOUGLAS,
*Chairman, Joint Economic Committee,
U.S. Senate, Washington, D.C.*

DEAR SENATOR DOUGLAS: Transmitted herewith is "A Study of the Dealer Market for Federal Government Securities" prepared in response to the committee's instructions in its annual report filed with the Congress February 29, 1960 (S. Rept. 1152, 86th Cong., 2d sess.).

This analysis covers the operations of the 17 dealers in Federal Government securities as set forth in the reports filed with the committee by the dealers in connection with the committee's 1959 study on "Employment, Growth, and Price Levels." In connection with that study,

on November 2, 1959, the dealers were requested to furnish information concerning their operations as follows:

- (1) Statement of earnings and expenses;
- (2) Position and sources of financing on selected dates;
- (3) Financial position in securities, 1948-59;
- (4) Yearly gross transactions in U.S. Government securities, 1948-59; and
- (5) Balance sheets, 1948-59.

A set of four forms was supplied to each dealer upon which to record their reports. The last of these data was received in March of 1961, the delay being due to difficulties experienced by some of the dealers in completing the tabulation of the information, particularly for earlier years. In completing the study this year, it was discovered that additional information was needed, including both additional data and explanations of certain items which were not completely clear. The request for additional information was made to the dealers in June. In July, a number of the dealers were visited in New York to clarify the meaning of the information supplied.

The tabulations and analyses were prepared and the report was written by Profs. Allan H. Meltzer and Gert von der Linde, of Carnegie Institute of Technology, Pittsburgh. James W. Knowles of the committee staff provided the general direction and supervision, designed the questionnaire and carried out the initial phases of the investigation in connection with the studies of employment, growth, and price levels during the fall of 1959.

This study has been carried out in complete conformity with Committee Rule No. 23, which provides that the information contained in any books, papers, or documents furnished to the committee by an individual, partnership, corporation, or other legal entity shall, upon the request of the individual, partnership, corporation, or entity furnishing the same, be maintained in strict confidence by the members and staff of the committee. Under the committee rules the only persons having access to this file have been Messrs. Knowles, Meltzer, and von der Linde who were formally designated to carry out the study. In the report submitted herewith, the confidential character of the individual responses has been fully protected.

One unpublished and three published sources have been of great assistance to the authors in the course of this study. The unpublished volume, "The Market for United States Treasury Obligations," prepared for the National Bureau of Economic Research by Morris Mendelson and Roland Robinson was extremely helpful in corroborating reports from dealers and in describing the functioning of the market. The three principal published sources have been acknowledged at appropriate places in the text. The full citations, however, are given here:

(1) "The Treasury-Federal Reserve Study of the Government Securities Market," part I, July 1959; part II, February 1960; part III, February 1960. This is referred to in the text as the Treasury-Federal Reserve study.

(2) "United States Monetary Policy: Recent Thinking and Experience," hearings before the Subcommittee on Economic Stabilization of the Joint Committee on the Economic Report, Congress of the United States, Washington, 1954. This volume contains a copy of

the "Federal Open Market Committee Report of the *Ad Hoc* Subcommittee on the Government Securities Market, November 12, 1952." These are referred to as "Hearings, 1954" and "Ad Hoc Report."

(3) "Employment, Growth, and Price Levels," hearings before the Joint Economic Committee, Congress of the United States, Washington, 1959. Parts 6A, 6B, and 6C. In the text, these volumes are cited as "Hearings, 1959."

Numerous interviews or meetings were held with Government securities dealers, the debt management staff of the Treasury, several officers and staff members of the Board of Governors of the Federal Reserve System, the Federal Reserve Bank of New York, and the Federal Open Market Committee. All of those involved contributed measurably to this report. Without their wholehearted cooperation the report could not have been completed.

Processing of the data was in part accomplished through the helpful assistance of M. H. Schwartz and Catherine Whistler of the Division of Research and Statistics, Board of Governors, Federal Reserve System, after the data had been coded and punched to protect the confidentiality of the respondents.

Messrs. Meltzer and von der Linde wish me to express, too, their indebtedness to their colleagues, G. L. Bach and Edwin Mansfield of Carnegie Institute of Technology for valuable discussion and criticism of ideas and analytical techniques used in this report and to Mrs. M. Blank whose assistance in preparing the report went far beyond the obligations of a secretary.

Finally, the committee should note particularly that it was difficult to arrive at a consolidated picture of the market because of the lack of uniformity in record keeping practices and reporting in the industry during prior years. This has made it difficult both for the dealers in supplying data and for the staff in reconstructing reasonable estimates of totals for the market; and it has put certain limitations, noted in the text, upon the conclusions that can be drawn.

Respectfully submitted.

JOHN W. LEHMAN,
Clerk and Acting Executive Director.

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CHAPTER I

THE ROLE OF THE DEALER MARKET

INTRODUCTION

Monetary policy and the management of the public debt are among the most frequently discussed topics in the economic and financial literature. Public hearings, books, scholarly papers, discussions in the financial and lay press have analyzed and reanalyzed actions taken or avoided by the Federal Reserve and the Treasury. Numerous proposals for modification of existing procedures or improvements in techniques for funding the debt or stabilizing the economy have appeared. There has been no apparent tendency for the popularity of these subjects to diminish in recent years. On the contrary, as economic stabilization and debt management problems have become more acute the discussion has expanded.

Literature about the functioning and performance of the market for Government securities dealers is in marked contrast. Until recently, sources of information about dealer operations in this market were relatively scarce. Quantitative information about this market was based on intelligent guesswork or illustrative examples—principally those contained in testimony given at congressional hearings. Detailed reports of operations which have been collected for many years by one Federal Reserve bank were submitted to the bank by the dealers with the understanding that such reports would not be made part of the public record.

Secrecy about the aggregate operations of Government securities dealers is surprising in view of their important role in the economy and the readily available statistics on commercial banks, savings banks, insurance companies, and other financial institutions which regularly appear in the Federal Reserve and Treasury bulletins. It is even more surprising in view of the fact that these dealers form the largest securities market in the country and one which is so heavily vested with the public interest.

Two principal reasons make the operation of this market an important source of information about the working of the economy. First, monetary policy and debt management operations both condition and are conditioned by the operations which take place in the dealer market. Second, the role which the dealer market plays in the savings-investment process merits more detailed examination than has been possible in the past.

Through the dealer market pass virtually all of the secondary transactions in Government securities. Efforts by the Federal Reserve to influence the free reserves of commercial banks are most often carried out through open market purchases or sales. For these purposes, the dealer market is the open market. Efforts by the Treasury to fund the debt or raise new cash depend in part on the functioning of the dealers as underwriters of new issues.

IDENTIFYING THE DEALERS

Until recently, few quantified statements about dealer operations were available. Even the estimated number of active dealers was subject to some variation in the few publicly available accounts of Government securities operations. The Federal Open Market Committee report of the ad hoc Subcommittee on the Government Securities Market, prepared in 1952, refers to "about 20 dealers including some banks with trading departments."¹ Roosa, writing in 1956, suggests that there are between 15 and 20 "quasi-specialists."²

Testimony before the Joint Economic Committee in 1959 identifies 17 Government securities dealers, 5 banks, and 12 nonbanks.³ Listed alphabetically, the 17 dealers are:

Bank dealers

1. Bankers Trust Co.
2. Chemical Bank New York Trust Co. (formerly Chemical Bank & Trust Co.).
3. Continental Illinois National Bank & Trust Co. (Chicago).
4. First National Bank of Chicago.
5. Morgan Guaranty Trust Co. (formerly Guaranty Trust Co.).

Nonbank dealers

1. Bartow, Leeds & Co.
2. Briggs, Schaedle & Co., Inc.
3. C. F. Childs & Co., Inc.
4. C. J. Devine & Co.
5. Discount Corp.
6. First Boston Corp.
7. Aubrey G. Lanston & Co.
8. New York Hanseatic Corp.
9. Wm. E. Pollock & Co., Inc.
10. Chas. E. Quincey & Co.
11. D. W. Rich & Co., Inc.
12. Salomon Bros. & Hutzler.

Two of the banks and one of the nonbanks (C. F. Childs) have headquarters in Chicago, but most of the trading is done in New York.

Aside from their transactions in the Government securities market, there are few similarities among the dealers. Four of the nonbank dealers are partnerships. Two of the firms are leading underwriters of new corporate issues and two others participate in many offerings. Two are members of the New York Stock Exchange; at least two are active in the acceptance market. Several are dealers in municipal, agency, and International Bank bonds, and some underwrite the initial distribution of such issues. Other differences, particularly those which reflect on their operations as Government securities dealers, will be discussed at a later point. Enough has been said to suggest that the dealer function is performed by a variety of different types of firms.

From 1944 to 1953, a distinction between dealers was made by the Federal Reserve Bank of New York. Twelve dealers were recognized for trading purposes by the Open Market Committee. The remaining 5 dealers—Bartow Leeds, Briggs Schaedle, Pollock, Lanston, and New York Hanseatic—now participate in open market transactions with the Federal Reserve on an equal footing with the other 12.⁴ Since 1953, the terms "recognized" and "unrecognized" have ceased to have their former meaning in this market.

¹ This report was made public in 1954 as a part of "United States Monetary Policy: Recent Thinking and Experience," hearings before the Subcommittee on Economic Stabilization of the Joint Committee on the Economic Report, Washington, 1954. The quotation above is from p. 261 of the hearings.

² R. V. Roosa, "Federal Reserve Operations in the Money and Government Securities Market," Federal Reserve Bank of New York, 1956, p. 35.

³ "Employment, Growth, and Price Levels," hearings before the Joint Economic Committee, pt. 6B: "The Government's Management of Its Monetary, Fiscal, and Debt Operations," Washington, 1959, p. 1508. This report will be referred to as Hearings 6B.

⁴ Hearings, op. cit., pt. 6B, pp. 1509 and 1515.

DEALER FUNCTIONS

One part of dealer operations in Government securities is the underwriting of new issues of Treasury securities. Dealers, along with many other groups, assist in the distribution of new cash issues or refundings in a variety of ways. If the securities are sold at auction, dealers bid for their own account and furnish advice on the expected yield of a forthcoming issue to other bidders. Dealers buy a portion of most new issues which are sold for cash and facilitate the exchange of old issues for new securities when the Treasury exchanges issues and when rights are offered.

After a new issue has appeared, the dealers become a principal means by which secondary distribution is effected. Banks and others buy for the account of customers and correspondents and assist in the secondary distribution, but dealers actively buy and sell the new securities in the open market.

Even when dealers do not directly participate in the underwriting, they usually are willing to trade the issue in the secondary market. They thereby facilitate the "seasoning" of new issues and the establishment of a yield which reflects the market's opinion of the value of the new issue in relation to other outstanding securities.

Government securities dealers continue to buy and sell existing issues for their own account and risk during the life of the security. Not all dealers trade in all issues as will be seen more fully in chapter II, but all Government securities dealers are willing to buy and sell some range of maturities—frequently in large amounts—at the prices which they quote over the telephone. As a group, the 17 dealers listed above are the principal (at times the only) market for outstanding Treasury issues at quoted prices. They thereby permit the orderly exchange of issues for cash or other issues.

DEFINITIONS

Several terms will be used repeatedly in this study. To avoid repetition, and possible misunderstanding, they are defined here:

The term "Government securities" will be used to refer to the marketable debt available for trading. All of the publicly held marketable issues plus those issues or portions of regular issues held by Treasury trust accounts and the Federal Reserve are included here. Special issues and nonmarketable issues are excluded.

"Government obligations" is defined as total Government securities plus nonmarketable and special Treasury issues, plus outstanding agency issues. Included in the agency issues are Federal home loan bank bonds, obligations of the Federal intermediate credit banks, the Federal National Mortgage Association and similar agencies. Maturity classes, as used here, will refer to the following groups unless otherwise noted:

1. Bills—short-term Government securities (under 1 year) which when issued weekly have 91 or 182 days to maturity, plus 1-year bills issued quarterly since April 1959, and special bills issued at irregular intervals. Bills are issued on a discount basis and are usually offered by the auction method.
2. Certificates—or certificates of indebtedness—are short-term securities with 1 year or less to maturity when issued. In the past, the

Treasury has issued certificates both with and without coupon attached. All of the presently outstanding issues are coupon securities. A special kind of certificate known as the tax anticipation certificate has been issued at various times since July 1953. These are particularly attractive to corporations as a medium by which funds accumulated for tax purposes may be invested temporarily. Interest is usually paid beyond the date on which taxes are due.

3. Notes are issued with original maturity of 1 to 5 years. They are coupon securities issued at par value.

4. Bonds may be issued in any maturity but have usually been issued with 5 or more years to maturity. Like notes they are coupon securities issued at par. They may or may not have an optional call feature which permits the Treasury to retire or refund them prior to their final maturity. Most often the call feature can be first exercised 5 years before final maturity but both longer and shorter call dates have been used.

5. "Long-term bonds" as used here, usually refers to issues with 5 or more years to maturity on a particular date.

6. Under 1-year maturities include all bills and certificates plus notes and bonds which have less than 1 year to final maturity.

Since the publication of the ad hoc subcommittee report, the phrase "depth, breadth, and resiliency" has been used in discussions of the dealer market. This phrase is defined in the subcommittee report and we quote:⁵

In strictly market terms, the inside market, i.e., the market which is reflected on the order books of specialists and dealers, possesses depth when there are orders, either actual orders or orders that can be readily uncovered, both above and below the market. The market has breadth when these orders are in volume and come from widely divergent investor groups. It is resilient when new orders pour promptly into the market to take advantage of sharp and unexpected fluctuations in prices.

The market or a particular issue or maturity range is characterized as "thin" when depth, breadth, and resiliency are not characteristic of operations in the market, issue, or maturity range. There is a "wide gap between the prices at which the least firm holders are willing to sell and potential buyers are willing to purchase." Quotations fluctuate widely "either in response to relatively small buy or sell orders, or more frequently, as a result of professional efforts to stimulate interest by marking quotations up or down."⁶

The "bills only policy" refers to that policy of the Federal Open Market Committee adopted and abandoned in the spring of 1953 and readopted in the fall of 1953 which has led to the practice of executing purchases and sales for the account of the Committee mainly in Treasury bills.⁷ While exceptions have been made, this policy has prevailed since September 1953.

⁵ Hearings, op. cit., December 1954, p. 265. See also hearings, op. cit., 1959, pt. 6C, pp. 1922-1926 for the definitions offered by the 17 dealers.

⁶ Hearings, 1954, p. 266.

⁷ A recent statement of the rationale for this policy is: R. A. Young and Yager, C., "The Economics of 'Bills Preferably,'" *Quarterly Journal of Economics*, August 1960.

THE DEALER MARKET AND THE SAVING-INVESTMENT PROCESS

The Government securities market differs from other securities markets in a variety of ways. In several of the chapters which follow specific characteristics of this market will be considered. We will find that the size of the market (measured by the value of transactions), the rates at which dealers borrow, the amount of leverage, the cost of making transactions, and numerous other operating characteristics differ substantially from those found in other security markets. In combination these characteristics are sufficient to suggest that this market be regarded as a unique institution.

From the viewpoint of the economy, the particular role which the Government securities market takes in the functioning of the financial system is of greater significance than its unique operating arrangements. The functions which are performed by this market—the role which it plays in the saving-investment process and its use as a mechanism for transmitting changes in the supply of money to the economy—make the operation of the market of concern to those who are not security dealers or specialists.

ARBITRAGE IN THE DEALER MARKET

The dealer market for Government securities operates as a principal bridge between the money market and the capital markets. At one end, Treasury bills are exchanged for cash. As the above discussion of Treasury bills indicates, they may have as much as 1 year or as little as 1 week or 1 day to maturity. The outstanding amount of such securities has an average maturity of less than 3 months. Of all the outstanding securities, they are the closest substitute for cash. This is true not only because of their short maturity, or the guarantee of principal and interest by the Federal Government but also because they can be sold for cash in the market at most times, in virtually any amount, with relatively minor price fluctuations.

At the other end of the maturity range are the Treasury's long-term bonds. These must directly compete for funds with issues of State and local governments as well as with long-term obligations issued by Government agencies, corporate securities, mortgages, and other long-term debt instruments. Each of these instruments must be priced to attract funds from the capital market at the time it is offered. Thereafter, the capital market reevaluates a particular offering relative to all other outstanding marketable obligations each time a purchase and sale is executed.

Many of the securities offered to potential buyers in the capital market do not trade actively. Some are privately placed and remain in the portfolios of the original purchaser from the date of issue until the final maturity is reached. Others are issued in small amounts and can be sold only in limited quantities or with potentially large price changes. Still others are traded more frequently; for these, an active market is said to exist in which prices are realized in transactions and quoted on a daily basis.

Because the money creating and taxing power of the United States is a guarantee that both the interest and principal of Treasury securities will be paid when due and because Government securities dealers maintain a market for Treasury bonds, purchasers are able to sell some of their bonds at any time. As a result, such bonds are generally regarded as more liquid than competing debt instruments. The greater liquidity and lower risk are reflected in the difference between the average yield on Treasury bonds and the average yields on obligations of States, municipalities, and corporations. On the whole, a relatively constant difference in mean yield has been maintained between Treasuries and corporates, while marginal yields, measured by the yield on new issues, have generally fluctuated in response to changes in the demand for or supply of money.

The tax-exempt status of State and municipal bonds keeps their average yield below the yield on Treasuries. However, the increased stock of tax-exempts has been accompanied by a wider distribution of outstanding issues. To increase the demand for tax-exempts by those in other than the highest tax brackets, the average yield on municipals has risen more rapidly than the average yield on Treasuries and the difference between the two has narrowed during the postwar period.

Arbitrage between the corporate, municipal, and Treasury markets adjusts the yields on outstanding issues to general changes in the economy and specific changes in the supply of outstanding issues. Since many Government dealers are also active dealers in corporate and municipal bonds, it is likely that they are among the active arbitrageurs. Moreover, increases in the stock of corporate and municipal bonds outstanding have been accompanied by a decline in the absolute amount of long-term Treasuries which insurance companies, banks, and some other institutional investors hold. Even if the Treasury is not issuing new long-term bonds, competition for funds by other issuers will temporarily increase the flow of outstanding Treasuries to the dealer market and reduce their price.

Thus at one end of the maturity range, there are Treasury issues which are close substitutes for money, while at the other end there are securities which compete for funds in the capital market or markets. In between there are a variety of other types of securities as we move from bills to certificates and short-term notes or bonds into intermediate and longer term securities. In principle, each of these issues should offer a yield such that none of the owners of a particular issue would prefer to sell that issue to obtain any other issue at the existing prices or yields. If a particular issue is priced relatively high or low when compared to other issues, arbitrage could take place profitably eliminating the discrepancy in yields.

The Treasury has a larger amount of outstanding debt and a wider range of maturities than any other borrower in the economy. Of course there are some gaps in the maturity structure and some special features attached to particular issues which are not available on other issues. These create differences which make Treasury securities less than perfectly homogeneous for reasons other than differences in length to maturity. Nevertheless, it seems reasonable to believe that market trading will evaluate these differences and adjust the rates to compensate holders for call provisions and other special features

provided that there is an opportunity to buy or sell a comparable security which does not have the particular feature.

At the shortest end, the Treasury issues dominate the market. As the evidence in later chapters will show, "depth, breadth, and resiliency" are characteristics of this market. Relatively large transactions take place at quoted prices and demand and supply schedules exist on the books of dealers in all but the most disorderly markets. The flow of securities to the market in response to rate changes is sufficiently large to permit speculators to quickly arbitrage differences in yields between the various bill issues, between bills, certificates, and other short-term Treasury instruments as well as between outstanding short-term Treasury securities and short-term obligations of other issuers. This suggests that the Treasury does more than supply a stock of nonmoney liquid assets when it issues bills and certificates. It also provides an effective medium for the rapid adjustment of short-term interest rates.

Dealers in Government securities arrange a large part of their financing through the money markets. As will be shown in more detail in chapter V, participants in the dealer market effectively arbitrage between the money and short-term securities markets. Moreover, banks view the purchase of very short-term Treasury bills as a substitute for the sale of Federal funds and regard such bills as the closest substitute for money. From their viewpoint, the Treasury bill market is a part of the money market.

Arbitrage operations, as has been suggested, relate the average yields on Treasuries with the average yields on other instruments. Through the dealer market, the yields on Treasury securities of all maturities are also related. As will be shown in later chapters, depth, breadth, and resiliency are far less characteristic of the long-term market. At times arbitrage operations cannot take place as rapidly between short- and long-term issues and between long-term Governments and other capital market issues as they do in the money and securities market.

Nevertheless, the Treasury has outstanding a larger stock of actively traded issues than any other institution. Maturity aside, these securities are more homogeneous than the obligations of any other issuer. It is likely, therefore, that much of the arbitrage between long, intermediate, and short-term rates of interest—or between the money and capital markets—is accomplished through the Government securities market. Certainly this has been true during part of the postwar period. For example, the absorption by the market of a greatly increased stock of corporate securities has been facilitated by the reduction in the amount of outstanding long-term Government securities in the portfolios of insurance companies and others. Absorption of these issues through the dealer market has been accomplished in part by raising the yield on Treasury bonds from its existing level. Further adjustments, through intermediate and short-term yields, alter the shape of the yield curve to the new equilibrium level of rates.

Should the Treasury seek to increase the average maturity of its outstanding marketable debt and thereby affect the relationship between short- and long-term yields? Much of the present practice and discussion of debt management is predicated on the belief that it should. But, many fail to recognize that the Treasury has been principally engaged in refunding debt during the postwar years. With

the exception of a few years of recession and the Korean war, new cash borrowing has been a relatively small part of Treasury debt operations.

Attempts to increase the average maturity of the debt during refundings alter the structure of interest rates by increasing the supply of longer maturities while reducing the supply of shorter maturities. To extend the maturity of the debt, the Treasury must attract into the long-term market some of the money released at the short end of the maturity structure or an equivalent amount of cash from elsewhere. Like corporations which issue long-term bonds, the Treasury must pay more than the average yield on outstanding issues, if it is to sell a new issue of bonds. In periods of tight money, the differential between new issue rates on Aaa corporates and the average yield of highest grade corporate bonds has been as much as one-half or 1 percent. This premium is the price paid to attract additional funds to the capital markets from other uses. It rises when money is tight and short-term rates approach long-term rates.

Judging from the performance of the corporate bond markets, the differential between the rate paid on new issues and the average yield on outstanding securities will fall during recession. However, if the Treasury takes advantage of the opportunity to extend the average maturity of the debt during recession, it widens the differential between short-term rates and long-term rates and slows the downward adjustment of interest rates in the capital markets. As a result, it may reduce the amount of capital investment and hinder the readjustments of the economy.

Since the outstanding marketable debt remains relatively constant and the Treasury has chiefly refunding operations to consider, the management of the public debt could be directed toward improving interest rate adjustments between short- and long-term markets. Refunding operations release money at one end of the maturity structure and absorb it at other points. No change in the money supply takes place. With appropriate debt management there need be little change in the level of interest rates or the differential between short and long rates as a result of the refunding operation. This could be accomplished, if desired, by abandoning efforts to increase the average maturity of the debt and concentrating on maintaining a constant maturity structure.

If the quantity and the maturity composition of the debt are roughly constant, refunding operations have little impact on the structure of interest rates. Changes which occur will be adjusted by arbitrage, provided only that the stock of securities in each maturity class is sufficient to permit "depth, breadth, and resiliency" to be characteristic of trading in each sector. Moreover, by maintaining almost constant maturity composition and improving the opportunities for arbitrage, the Treasury makes a greater contribution to the adjustment of the economy. When the level of interest rates changes, e.g., as a result of monetary policy, arbitrage along the yield curve will change the structure of interest rates in response to the demands of the private economy. If lenders expect inflation, efforts to sell long-term and buy short-term instruments will quickly change the structure of rates and adjust the yields upward to reflect market considerations.

The dealer market then will transmit interest rate changes up or down the structure of rates. Through arbitrage between the

dealer market and the money and capital markets, new savings flow to the sectors of the capital market most attractive to particular lenders. The dealer market serves as one of the principal mechanisms by which the interest rate structure more rapidly adjusts the flow of savings into investment in response to the demands of borrowers and lenders.

The potential role of present debt operations is in marked contrast to functions of Treasury debt management during the years of war and depression. Then the amount of new cash borrowing greatly exceeded the amount of refunding. The rate which the Treasury offered to the market had to be sufficient to attract new savings from the economy or to activate idle balances. The money which the Treasury obtained was used to pay deficits and to finance public works projects. The money supply was increased. Under such conditions, the impact on the level of rates or the question of competition with private investors were important considerations in deciding upon the maturity of new Treasury financing. And the role of the Treasury was principally one of providing funds for new Government investment or new military expenditure.

Increasing the flexibility of interest adjustments requires improvement in opportunities for arbitrage. The extent to which arbitrage remains imperfect will be considered at a later point. Enough has been said to suggest that evaluation of the present role of the dealer market for Government securities in the economy largely reduces to analysis of its performance in providing a means through which interest rate changes can be rapidly spread from one sector of the financial markets to the others. For it is through arbitrage operations that the effects of monetary policy are carried up or down the interest rate structure and rates are allowed to allocate the flow of savings into particular investment channels in response to the demands of the private economy, states, municipalities, and others.

SCOPE OF THE STUDY

This study is based on a series of financial reports which the 17 dealers in the Government securities market voluntarily completed at the request of the Joint Economic Committee. In addition, several dealers were able to supplement their own records with information previously submitted to the Federal Reserve Bank of New York. Additional material and substantial help in interpretation of accounting records was obtained through interviews with more than two-thirds of the dealers as well as with officers of the Federal Reserve Bank of New York and the staff of the Board of Governors of the Federal Reserve System.

The main focus of the study is the market in which outstanding Treasury issues are traded, and by far the larger part of the discussion is a description of the way in which the market operates. Chapter II concentrates on market organization, differences between individual dealer operations, and dealer views of their own operations. Succeeding chapters consider in turn each of the financial reports submitted by the 17 dealers: position, transactions, sources of financing, capital, and earnings. At the end, a brief summary of some of the principal findings is provided and some questions are posed concerning the role of the market in the economy.

CHAPTER II

THE DEALER MARKET: TRADING ORGANIZATION AND PHILOSOPHY OF DEALER FIRMS

The internal organization of dealer firms is closely related to the size of total operations. In five cases, Government securities operations are conducted in a relatively small department of a large bank. For some nonbank dealers other activities—dealing in corporate or municipal bonds, underwriting new issues, or trading on organized exchanges—are regarded as the principal occupation of the firm.

Size of the dealer operation in Government securities is a more important determinant of the manner in which Government securities are traded than the number or kind of alternative activities in which the firm engages. Large dealer organizations are more than simple multiples of smaller firms. In general, larger firms (1) provide additional services to customers, (2) have greater access to information on changing market conditions, and (3) perhaps most important of all, have different philosophies which guide their operations.

For the benefit of those readers who have not had the opportunity to witness bond trading, a brief description of some aspects of internal organization is provided. Readers familiar with the operation of the market may prefer to go directly to the section in which some of the implications of the differences between large and small firms are examined. Discussion of differences in the legal form of organization will be found in chapter VI.

INTERNAL ORGANIZATION FOR TRADING

For the purposes of this study, the dealer market may be regarded as composed of the 17 firms listed earlier. Five are departments of large New York or Chicago banks; the remaining 12 are firms whose principal business is the purchase and sale of securities. At various times since 1947 at least six additional participants in the market¹ have reported on their operations in Government securities to the Federal Reserve Bank of New York. Two of the six have been active during the last 4 or 5 years, but their scale of operations in Government securities has been quite small.

Virtually all transactions in Government securities are conducted by telephone or teletype. The trader operates from a desk equipped with a series of direct connections with the trading desk of the Federal Reserve Bank of New York and each of the other dealers. In addition, there are a number of other telephone lines connecting the sales department with banks, insurance companies, and other customers.² One telephone switchboard and a blackboard, for recording

¹ Northern Trust Co., Blair & Co., J. B. Roll, Schroder Rockefeller & Co., Harvey Fisk & Sons, and Malon S. Andrus, Inc.

² In a large firm customer calls are usually handled by a salesman. The "trader" deals almost exclusively with other traders.

current quotations and direction of price change for the various issues of Government securities, constitutes all of the equipment used by a small dealer. In a bigger operation, a large number of identical switchboards will be manned by an equal number of specialists each responsible for trading a particular class of maturities or group of issues. A "head trader," frequently a principal of the firm, supervises the operation from a central desk. Large or difficult transactions and most of the purchases from and sales to the open market desk at the Federal Reserve will be handled by him. In large dealer firms, there are several principals—partners or officers or stockholders as the case may be. Typically each supervises a particular maturity range.

An electric quotation board may replace the blackboard of the small dealer. Last prices or quotations on all issues of Government securities, and the highest and lowest quotation of the day are recorded below the closing price for the previous day's trades. While the small dealer may only post a few selected issues in which he is actively interested or which are close substitutes for those he owns, the large dealer keeps a current record on the entire list of Government securities and related issues—agency and other guaranteed obligations.

As trading proceeds, purchases and sales are recorded on a sheet directly in front of the trader. The amount of outstanding repurchase agreements and the dates on which the securities will be redelivered are noted there also. In this way, the trader is kept aware of the precise amount of securities which he has available, the amount which he is "short," and the amounts which are due to be delivered on subsequent trading days.

In large firms, a "money desk" in the trading area is responsible for arranging the financing of the company's position in Government securities or in related securities. A copy of each purchase or sale order is furnished to the money desk. A record is maintained of the exact amount of additional financing needed to balance the daily cash flow against the daily flow of securities. Rates and reserve positions at money market banks and other large banks throughout the country are checked; repurchase agreements are sought with corporations throughout the country; interest rate changes in the money market are noted.

In a small dealer firm, financing will be combined with trading. The "money market desk" is reduced to a column on the page which records the company's net position. As securities are sold or purchased, the "amount remaining to be financed" will indicate the day's change in cash position as a positive or negative amount.

Frequent "feedback" between the trading desk and the money desk will influence the course of trading. If money is tight on a particular day, prices will be shaded in an effort to dispose of securities for cash. As a result, tight conditions in the money market are reflected in the securities market through a fall in the price of securities. Through the constant interplay between the trading desk, the money desk, and the markets, changes are transmitted to the various markets on which interest rates are formed. Moreover, if trading in Government securities is done in but one department of a multidepartment securities house, there must be coordination between the trading in corporate and municipal obligations and the Government securities department. At least one of the firms which offers a wide range of securities, coordi-

nates its trading activities by placing the trading desks for the various securities—corporate, municipal, and Government—in adjacent areas. The money desk is used to balance the inflow and outflow of cash on all markets. It thus becomes the control center for a firm's cash flows to or from a variety of securities markets.

Among the bank dealers, the problem of coordination is handled in a similar way. In many cases, the bank's portfolio, the dealer function, and the reserve or money position are handled through a single vice president. He decides on the allocation of the bank's reserve position between the Government securities and portfolio or investment departments. For most of the bank dealers this officer is the principal means of coordinating activities in the various security markets. He allocates funds internally and borrows or lends Federal funds in the money market. Differences in sources and availability of funds aside, it is clear from the above that his function differs little in principle from the operation of a money desk at a multidepartment dealer firm.

In these aspects of internal organization for financing and trading, large firms are simply more complex or more elaborate reproductions of their smaller competitors. But, as noted above, large firms provide additional services to customers and engage in operations which smaller firms avoid. These services play an important part in the functioning of the market and the transmission of interest rate changes. They both reflect and condition the policy aims of dealer firms.

CUSTOMER SERVICES AND INFORMATION FLOW

The trading room of any large dealer appears to the uninitiated as a place of hubbub and confusion. Quotations are shouted back and forth between traders, salesmen, and clerks. Runners carry messages between the various departments. The sales department and teletype room, neither of which is generally found in a smaller firm, provide direct contact with customers seeking to buy or sell securities. Sale or purchase orders received at branch offices are processed.

Contrast to this the trading room of a small dealer. One, two, or perhaps four or five men are quietly buying, selling, or quoting securities on the telephone or recording their position on their tally sheets. There is much less apparent activity. And there are important differences in functions performed.

The large dealer is much more likely to be operating in a national market. He frequently has large branch offices in various sections of the country. And he is also more likely to have both telephone and outside salesmen calling on banks, insurance companies and the treasurers of large nonfinancial corporations outside New York. Moreover, the large dealer will generally have an active and well-staffed statistical department to analyze the changes taking place in the various parts of the country, their impact on the reserve positions of banks, on interest rates and the price of Government bonds. In addition, his staff people collect itemized portfolios for active participants in the market. He is thus aware of factors affecting the demand for securities in particular communities.

The information and contacts obtained in these ways not only directly assist the larger dealer to maintain a greater volume, they also provide information which is useful for two important purposes.

First, when a customer is seeking to purchase or sell a particular long-term issue which is not actively traded, knowledge of the present holders of the issue and an awareness of their portfolio requirements is a prerequisite to servicing the order. In the present long-term market, many issues are not actively traded for reasons discussed in more detail below. Easier access to information permits the larger dealer to service the order by offering to exchange securities with some other customer, borrow the securities which a particular customer desires, or otherwise arrange to fill the order. Through these means some of the disadvantages of a "thin" long term bond market are overcome. Dealer information on customer portfolios eliminates some of the risk involved in holding "thin" issues and helps to prevent infrequently traded issues from selling at a price which is low relative to comparable maturities.

Second, greater access to market information permits the large dealer to take advantage of temporary situations which arise in other parts of the country. Through his branch offices and his more frequent contacts with firms throughout the country the large dealer is made more quickly aware of minor but important changes in local or national conditions. For example, the forthcoming large sale of a particular issue by a pension fund would temporarily reduce the price for that issue. The dealer may therefore wish to dispose of his position in advance. A result of this has been a reduction in the number of dealers who actively trade longer term securities for which markets are "thin" and the risk involved in holding a given dollar amount of securities is great.

One small dealer summarized his role in the market by stating that he was generally unable to assume the risks of a long-term position. If he tried, he felt sure that he "would end up 'holding the bag' for one of the bigger dealers. He [the large dealer] can find out what's happening in Cleveland, Detroit, or on the west coast and unload his position on me long before I know what is going on." As a result, some smaller dealers operate much less or not at all in long-term maturities.

More important is the fact that the small dealer tends to think of his operation as concentrated principally but not exclusively in New York. The large dealer is more likely to regard his operation as national in scope. There is no rule which clearly delineates the two. Even small dealers were anxious to point out in interviews that they had long established borrowing arrangements with the X Bank in Seattle or San Francisco. But, in discussing their trading activities they were much more likely to choose examples based on interdealer trading or sales to and from New York money market banks and financial institutions. Moreover, questions about the scope of activities generally indicated that the New York market was relatively more important for small than for large dealers.

The foregoing does not imply that the market is "dominated" by the large firms or that the small firms are without important functions. The role of smaller firms in this market is discussed later. However, we wish to suggest here that: (1) the functions performed by dealer firms differ, (2) size of firm is a rough indicator of this difference, and (3) large firms incur additional costs and undertake additional risks in the interest of increasing their trading volume, profits and service to customers.

DEALER VIEWS OF DEALER FUNCTIONS

Making markets

Conversations with dealers and written material about the Government securities market are replete with references to the dealer function of "making markets." Usually this refers to the well-known fact that the market for Government securities is an over-the-counter market, and that securities dealers clear the market by buying (absorbing securities into their position) or selling (eliminating securities from position or, alternatively, shorting the market). When interviewed many dealers seemed proud of the way in which this function is performed. Descriptions of their relationships with customers often referred to the alleged fact that "we make good markets" or "we are willing to stand on our market." Care was taken to make a distinction between dealers who as principals buy and sell securities for their own account and "take positions" (hold an inventory of Government securities) and brokers who arrange transfers between buyers and sellers but do not take positions.

But the repetition of such phrases aside, there was much disagreement about the function of making markets when dealers were asked to describe their function in detail. At one extreme there was a group of firms, generally the larger firms, who asserted that markets were made almost exclusively for customers. If a security is quoted to a customer, the dealer will be willing to buy or sell at the given "bid" and "asked" prices. However, the extent to which these quotations may be regarded as firm commitments appears to depend directly on the dealer's present or desired inventory position and inversely on the years to maturity of the issue. In the case of short-term securities most large dealers describe themselves as willing to "stand on their market" for almost any amount that a customer offers. But, in the event that a customer desires to sell a relatively large amount of a long or medium-term issue, e.g., \$5 million, a large dealer will normally buy some proportion of the offer, say $\$1\frac{1}{2}$ or \$1 million. He will then try to dispose of the remaining amount through interdealer trading or after inquiry, among those customers who are likely to have a portfolio need for the issue or maturity range. The dealer will normally not take the remaining \$4 million or \$4 $\frac{1}{2}$ million into position until he is able to arrange for the sale of these securities to a customer. On occasion an infrequently traded issue is offered. Even the largest dealers indicate an unwillingness to take such "thin" issues into position until an offsetting sale has been arranged.

Large dealers also emphasize what they describe as a service function. If a customer desires a particular issue, the dealer will scour the known holders of the issue and try to arrange for an exchange or "swap" with a holder in order to release the securities desired by the customer. Or if the security is actively traded, the dealer will sell the security short or hedge the transaction. To do this, he borrows the security and "goes short" to his customer. He restores his inventory with an available issue in the same maturity range. Thus the dealer services the customer by temporarily furnishing the market with a security which is in short supply at the existing market price. At a later date, the hedge transaction is reversed. The

dealer purchases the security which was sold short and sells the security which was purchased.

While there was some consistency in the views expressed by the large dealers, there was far less unanimity of opinion among the smaller dealers with respect to the dealer's function in the market and the definition of "making a market." Three points of view cover the range of expressed opinions. Two of them reveal a greater orientation toward the dealer market than to the service of customers.

One dealer described himself as "the dealer's dealer." This does not mean that he refuses to sell to nondealers but he was quite explicit that he views himself as a specialist who makes a market for other dealers. His method of operation consists primarily in bidding for bills at the weekly Treasury auction, taking them into position and disposing of his award during the week. On occasion he buys bills from other dealers and sells them to customers or vice versa. But his principal occupation seems to be winning an award of longer term—180 days or 1 year—bills and selling them off during the course of the week to other dealers. He views his function as a means of providing a portfolio of bills available to other dealers who are more directly engaged in servicing customers.

One long established dealer describes his primary function as making markets for other dealers. He denied emphatically that he "stands on markets" for customers. Moreover, he does not view the bank dealers as an integral part of the market and does not feel it necessary to make markets to them. He indicated that in his firm generally the customer is asked about the dollar amount of securities which the customer wishes to purchase or sell. The trader then decides whether or not to quote a price. The decision seems to be based principally on the dealer's current and desired inventory.

A third small dealer describes himself as a "merchant of securities." In general, he does not take very large positions in Government securities. Practically all of his trading is with customers rather than with other dealers and most of this is done in bills. Like the larger dealers, he views his firm as a service organization. But unlike them, the process of "making a market" is described as one in which customers are contacted, their needs are discovered, and securities are purchased to fill their demand. Aside from the small position which is normally carried by the firm and the alleged fact that the firm never charges commission or other fees, there is little difference between the "merchant of securities" and a broker.

The bank dealers do not differ substantially in their operations from other dealers. Banks with large dealer departments tend to hold larger portfolios in medium- and long-term securities; the smaller departments are concerned more directly on the average with bills, certificates, and other short maturities. However, it is likely that transactions with commercial banks are a larger part of total trading for bank dealers than for nonbank dealers. For some of the bank dealers, the opportunity to attract funds from banking correspondents outside New York or Chicago makes their dealer operation attractive even during periods of "tight money" when numerous alternative uses of their reserve positions are available. Moreover, some of the bank dealers seem convinced that their dealer operation attracts large corporate depositors since the department enables the bank to

effect securities transactions for corporations more rapidly than can banks which do not have dealer departments.

Smaller firms tend to concentrate on a particular range of maturities; larger firms are more likely to take positions over the whole range of maturities. Some of the small firms have become bill specialists, others have concentrated on intermediate and long-term securities or agency and guaranteed obligations. In part, this reflects the problem, discussed in greater detail in chapter III below, of maintaining a position in a wide variety of issues when capital is limited. In part, it is a reaction to a previously unprofitable operation over the whole range of the Government securities market. A variety of other reasons could be cited. In general they fall into three main classes:

1. *Information.*—Large dealers have large sales organizations, frequently have branch offices throughout the country, and are generally much more aware of the conditions and operations throughout the country. This point was discussed above and need not be elaborated further.

2. *Risk.*—The existence of long bonds in the portfolio means that the dealer is carrying a greater risk per dollar of portfolio. This point will be discussed in more detail in chapter III.

3. *Cost.*—Average size of transaction varies inversely with the maturity of the issue. Most dealers prefer to operate in a market in which the average size of transaction is relatively large. Where large dealers are more willing to incur the cost of handling small orders, it is in the hope of building up long-term customer goodwill. Bank dealers handle small orders to build goodwill among their correspondent banks and customers. Small dealers are somewhat less willing to handle small lots.

What then is the function of the small dealer in "making markets"? By taking positions, at least over some range of maturities, they assist in clearing the market, establishing an equilibrium price for Government securities and hence a structure of interest rates. As active participants in the market, they seek profitable arbitrage transactions between dealers and thereby assist in adjusting the spreads between bid and asked prices in various maturity classes. They "hit" the bid and offer quotations of the larger dealers, e.g., by selling short against a competing dealer's offers to buy or buying against his offer to sell. In this way, small dealers help to create an active, centralized market in which prices are less subject to erratic fluctuations.

In addition, the smaller dealers are particularly active in the "unwinding" or "unravelling" of positions. Transactions in Government securities often are made in a variety of issues with a single customer. For example, in the process of making a purchase, a dealer frequently acquires several different issues. Some of these may go into his position; some may have been purchased to complete a sale; others will increase his inventory of particular issues beyond the level which he wishes to maintain. A dealer can attempt to dispose of the latter group of issues through interdealer trading. Several additional transactions may be required to dispose of the securities and arrive at a desired portfolio composition. This process of portfolio adjustment, known as "unwinding," takes place principally within the dealer market and is accompanied by much negotiation. Small deal-

ers assist in the unwinding process by taking positions in the issues offered or by selling issues which are required to complete a sale. Thus, at the risk of greatly oversimplifying, we view the function of "making markets" as composed of two parts: (1) servicing customers throughout the country and (2) absorbing or offering securities in response to changes in price so that the flow of securities is equilibrated between buyers and sellers. Smaller dealers appear to function principally but not exclusively in the latter area. In addition, they help to "turn the market" by allowing sellers to exchange securities for cash and buyers to exchange cash for securities within relatively small price ranges.

Interdealer trading

Estimates of the magnitude of interdealer trading are not available in the records which have been examined. Crude approximations obtained during interviews with some of the large and small dealers varied considerably as the foregoing sections might suggest. These estimates ranged from a minimum of 10 to 15 percent in the case of one large dealer to a maximum of 90 percent for one of the small dealers. These estimates tend to support the suggested difference in orientation between large and small dealer firms.

The amount of interdealer trading will, of course, vary over time as market conditions change. One such change in recent years was the elimination of the 100 bond agreement in 1956. Under this arrangement, the dealers agreed to stand willing to buy and sell to each other at least 100 bonds (\$100,000) at the prices which they quoted. As a result, there is reported to have been a large amount of telephoning between dealers and frequent requests to "run the list" (quote bid and offer prices on all outstanding issues). Several dealers viewed these frequent quotations as a form of harassment which tied up substantial amounts of their traders' time. Moreover, in the present "thin" long-term bond market, there were many issues which dealers did not wish to hold in their positions. Both large and small dealers complained in retrospect that competitors would try to sell these issues to them and that much time would be wasted in the process of acquiring and disposing of relatively small amounts of long-term issues. Furthermore, abuse of agreements increased turnover and tended to have an exaggerated effect on the prices of these issues.

A general agreement of this kind is not likely to be revived in the near future. None of the dealers who were asked about the prospects for a new agreement felt that present market conditions make such agreements viable. Some felt that cooperative arrangements of this kind focused too much attention on interdealer trading, used a substantial amount of their traders' time and resulted in poorer service to customers. Some indicated that they now participate in trading agreements limited in scope. Others suggested that such agreements were incompatible with the active use of monetary controls and the accompanying large relative changes in interest rates and Government bond prices. Most dealers are unwilling to relinquish the degree of control over their own positions that such arrangements imply. Finally, many dealers feel that the function which such agreements perform could be better left to the market.

Size of transactions

Descriptions of the dealer market usually note that dealers are wholesalers of securities. This means that the dealers trade principally with banks, insurance companies, pension funds, governmental institutions, large corporations, or other dealers and brokers. But while it is true that sales and purchases are made almost exclusively with such institutions, the implication that banks and others act as retailers is not always true. Frequently, the dealer carries out both the wholesaling and retailing function, and the financial institution acts as a salesman.³ Illustrative examples of this occurred in 1959 and 1960 when the 47/8's of 1963 and the 5's of 1964 were first issued. Many individuals, influenced no doubt by the spread in rates between these Treasury notes and alternative rates at savings and loan associations, savings banks, etc., desired to obtain some of these new notes for their portfolios. The dealers were asked to fill a large number of relatively small orders which were passed on to them by banks, stock exchange brokers, or savings institutions. In general, these institutions did not attempt to pool the orders into larger units.

Many dealers were unable to estimate the number or average size of transactions in which they participated during a year. And there was little agreement about the definition of an "odd lot" though several dealers used this term to describe their operations. Nevertheless, a rough indication of typical transactions can probably be gleaned from the following:

1. Bills: \$1 million is regarded as a small transaction; \$25 to \$30 million is regarded as large.

2. Notes and bonds with less than 5 years to maturity: \$1 million would be considered a "good" trade; \$5 million is considered a large trade.

3. Longer-term bonds: \$1/4 million (or perhaps less) is a typical trade; \$1/2 to \$3/4 million would be considered a large transaction.

One dealer estimated that between 70 and 80 percent of his total transactions by number were for purchases or sales of \$100,000 or less. To defray some of the cost of handling these transactions, he now charges an odd lot fee of \$7 per ticket plus a fractional addition to the price per bond when selling (or subtraction when buying).⁴ Several factors suggest that this volume of small sales is atypical. Nevertheless, it does indicate that dealers often engage in both a wholesale and a retail business contrary to common belief.

Most dealers deplore the existence of small transactions. Some view them as a service which the dealers should perform. Others stated explicitly that they make every effort to avoid them. It is in part as a result of the latter attitude that from time to time charges arise that the dealers are unwilling to process small orders for customers or that some customers are unable to purchase or sell Government securities in the market. The recent growth in the use of odd lot fees will probably eliminate or at least change the direction of many of these complaints in the future.

³ Or, small buyers may execute some transactions through commercial banks. Many banks make no charge to customers for purchases of new issues.

⁴ Other dealers also have reported that "odd lot" fees are now charged, for example, 1/2 per \$100. We did not inquire into the extent or specific nature of such charges, but there is some evidence that they have not become standardized.

Short sales

In the process of establishing market clearing prices, short sales occur for a variety of reasons. First, such sales are undertaken by dealers as one part of an arbitrage transaction. This may arise as part of a customer service operation when a particular security is not available in the market at quoted prices. Or, they reflect a dealer's view that a particular security is priced above others in the proximate maturity range. Second, in the course of the day, a trader will often sell a customer more of a particular issue than he currently has in position, or he may sell securities which he does not have to complete a sale of several issues. If the security is actively traded, he knows that it can be replaced after the sale has been made, or hedged, through buying an equal amount of a nearby maturity. Occasions arise on which the replacement has not been made before the close of the trading day or "unwinding" has not been completed. Short sales of this kind are referred to as "technical shorts" and generally do not last longer than 1 or 2 trading days. Third, dealers attempt to anticipate changes in the price of outstanding issues or changes in the level of shape of the yield curve. The expectation of a fall in the price of Government bonds (or a general rise in interest rates) will induce some dealers to sell short on some issues. These can be labeled "speculative shorts."

Most dealers allege, and the statistics tend to confirm,⁵ that the volume of dealer "speculative shorts" is not very large. Frequently dealers suggested that selling short was "too expensive." Several argued that they not only have to pay one-half of 1 percent to borrow securities but that interest charges accrue against them daily. Hence they reason that the expected fall in price has to be large enough to compensate for the daily cost of borrowing the securities plus the accrued interest. Only in the event of a very rapid fall in the price of securities would this be likely to occur.

When securities are sold short, cash is obtained which may be used to finance the dealer's position or to purchase collateral required by the lender of the securities which are sold short. If the marginal interest rate at which the dealer finances his position exceeds the cost of carrying the short position, the net cash flow increases the dealer's cash balance. Just as in the case of speculative long positions, the net cost of carrying "speculative shorts" depends on the difference between the interest rate on the securities held and market carrying costs and the extent to which the dealer correctly anticipates the expected price change. But, at the long end, the carrying cost for speculative short sales generally is higher than in the case of speculative long positions as the following example illustrates.

Suppose the dealer sells short on a long bond and invests the cash in a bill or certificate. The rate on the long bond will almost always exceed the rate on the bill or certificate and will rarely ever be less than the rate of the bill by an amount equal to the cost of borrowing securities (one-half of 1 percent). Thus the net interest cost to the dealer will be positive in almost all cases. If the dealer invests the cash obtained from the short sale in a long-term security at a rate higher than the bill yield, he is performing an arbitrage transaction along the existing yield curve and not a "speculative short sale."

⁵ See, for example, the "Treasury-Federal Reserve Study," pt. II, pp. 138-139, for the week-to-week changes in aggregate dealer positions.

A more fundamental reason for the absence of "speculative shorts" reflects the dealers' view of their function in the market. Generally, they appear to be much less concerned with correcting or influencing the long-term trends in the bond market than with smoothing short-run, day-to-day changes in prices. Their principal concern is the servicing of customers or other dealers and the elimination of erratic short-term movements in price. While there are clear exceptions to this generalization, the discussion of dealer investment accounts in chapters III and VII will show that most dealers do not take either speculative long or short positions for the purpose of making capital gains. The combination of financing practices, which have been developed to service the market, and tax considerations mitigate against large-scale dealer speculative positions. Moreover, the difficulty which dealers encounter when they attempt to borrow securities, particularly long-term securities, further restricts the use of "speculative short positions."

DEALERS, BROKERS AND LIEUTENANTS

In recent years, increased use of Government securities brokers has facilitated trading, particularly at the long end of the market. One obvious reason for their growth was the breakdown of the "100 bond agreements." Closely related is the thinness of the long-term market.

Brokers provide two services for dealers in the intermediate- and long-term market. First, they permit interdealer trading to take place without revealing the identity of buyer or seller. Second, they provide a quotation service for dealers.

Dealers assert that brokers trade exclusively with dealers but do not take positions in Government securities. Instead, for a reported fee of one sixty-fourth they negotiate trades between buyer and seller. The results of these trades are then reported to all other dealers in the long-term market. In these ways they fulfill many of the functions formerly achieved by interdealer trading agreements. And they avoid the practice of introducing false bids into the market to obtain information about the intentions of competitors.⁶

In the present "thin" long-term market, it is not surprising that "false" bids or offers are made. Several dealers referred caustically to the practice of using "lieutenants" for this purpose. It is claimed that this practice occurs most frequently when a dealer wishes to unwind a long- or medium-term position. The position which he has acquired may have been originally offered by the customer to several different dealer firms. The firm which has executed the transaction is aware that as soon as it makes an offer of the securities, whether directly or through a broker, the rest of the market will know the composition, the amount, and the price of the issues. By employing a "lieutenant," often a stock broker, rather than a Government securities broker some firms hope that their competitors are convinced that the stock broker is handling an issue for a nondealer. Since dealers usually quote a wider spread to customers than to other dealers or brokers, the dealer holding the securities may be able to realize a higher price from his competitor in this way.

⁶ Brokers mentioned as active in interdealer trading included the following: Biggs & Moffit, E. H. Hoffman, Rutberg, and G. A. Winter. Probably as a result of their activities it is possible to complete transactions at the long end of the market with smaller fluctuations in the price of Government bonds.

THE FEDERAL RESERVE AND THE DEALER MARKET

Some of the principal operations of dealers and the dealer market involve the Federal Reserve System, particularly the Federal Reserve Bank of New York. Here we are concerned primarily with the way in which the market is organized to carry out its functions.

Among the more important services provided by the Federal Reserve System are (1) the auctioning of bills and the exchange of issues when they act as fiscal agent for the Treasury, (2) a source of financing of dealer positions through the use of repurchase agreements, (3) the purchase and sale of securities for the open market account and for the account of others, (4) one means of clearing or settling securities transactions, and (5) the recognition of Government security dealers with whom the Federal Reserve deals. The first two points have been discussed in detail elsewhere and need not be further elaborated here.⁷

*Transactions with the dealers*⁸

The Federal Reserve Bank of New York engages in two distinctly separate types of transactions in Government securities. On the one hand, it acts as agent for foreign central banks, the U.S. Treasury, and others. The purchases and sales must be effected without interfering with the aims of monetary policy, and they must be made at rates which reflect current prices in the market. On the other hand, transactions for the System's open market account are designed mainly to affect the availability of bank reserves in accordance with the directives of the Open Market Committee. At times, the volume and size of both types of transactions are relatively large and capable of substantially changing the existing market rates. Care must be exercised to assure that the two functions do not conflict. Moreover, efforts are required to assure that certain transactions which are made as agent are not regarded as indications of a change in monetary policy.

A brief hypothetical example may illustrate the point: Assume that an order to purchase \$5 million of 5-year notes is to be executed for a Treasury investment account at the end of a period of rapidly falling prices; e.g., the fall of 1958. This might be interpreted as a departure from the "bills only" or "bills usually" policy. How can an explanation be given to the market without establishing a tradition for such explanations? How can the possibly unsettling actions resulting from such purchases be countered in a market which has just experienced a sharp price break?

In practice the Federal Reserve Bank of New York separates its transactions as agent for others from its transactions for the System's open market account. While it does not inform the dealers about the origin of each transaction, this is accomplished by three devices all of which are familiar to the dealers and unlikely to cause confusion.

⁷ For a discussion of the auction market and the exchange or retirement of issues see W. L. Smith, "Debt Management in the United States," "Study of Employment Growth and Price Levels," 19, Joint Economic Committee, Washington, 1960, and hearings before the Joint Economic Committee, July 1959, pt. 6A, pp. 1148 ff. A discussion of repurchase agreements is contained in "The Federal Funds Market," Board of Governors of the Federal Reserve System, Washington, May 1959, and R. V. Roosa, "Federal Reserve Operations in the Money and Government Securities Market," New York, Federal Reserve Bank of New York, July 1956.

⁸ This discussion is based on practices prevailing in mid-1960. A discussion of pre-1953 operations is contained in the ad hoc committee report. Cf. Hearings before the Joint Committee on the Economic Report, December 1954.

First, usually different people make the two types of transactions at the trading desk in New York. Traders are arranged around a horseshoe-type desk.⁹ On one side, sales and purchases are made for the open market account; on the other, transactions in which the Federal Reserve Bank of New York is acting as agent are effected. Since all purchases and sales are made through the dealer market, it is not surprising that the traders in the dealer houses become familiar with the type of transaction which prompts the call. Moreover, if a large transaction is to be made for the System's account, the managers of the open market account will often call for the principal of the dealer firm, since it is he who will ultimately decide on the price to be quoted.

Second, the telephone conversation is different in each case. The trader who is acting as agent is interested in buying or selling securities at the current market. A glance at the quotation blackboard at the front of the room tells him the most recent quotations for each issue given several times daily by four or five leading dealers. With this information in mind, he calls one of the 17 dealers to effectuate a transaction in much the same way as any other customer might call. Over time, he attempts to distribute his calls among the dealers to the extent that this is possible, given the differences in the composition of their portfolios.

Purchases and sales for the open market account originate in what is known as a "go-around." All dealers are invited to quote and are asked to "stand on their market" for approximately 20 minutes; i.e., until the trading desk has decided upon the issues and amounts to be purchased and sold. Dealers will quote not one but a variety of issues and prices; e.g., several issues of 91-day or 182-day bills under the "bills only" policy. Quotations are compared and the managers of the account select those issues and prices which are lowest if they are buying or highest if they are selling. Again, the dealer need not guess to distinguish between transactions as agent and those involving the System's account.

Finally, when acting as agent, the Federal Reserve Bank of New York asks the dealer to calculate the aggregate amount of the purchase or sale and to forward the memorandum to its offices within the day. Transactions for the System's own account do not contain this provision.

To state that dealers can distinguish between the two types of transaction does not imply that as a result they always are able to identify changes in the direction of monetary policy. The open market account engages in a variety of offsetting transactions and occasionally diverges from the above procedures. It may wish to give temporary relief in a technical situation arising perhaps from a sudden heavy flow of reserves into or out of New York. Or, the managers of the account may decide to execute a "turnaround" buying on the early days of the week and selling in the latter part of the week. This operation may reflect the desire to mask a forthcoming change in System policy or to probe the extent to which quoted prices are firm on the bid and

⁹ A picture of the arrangement mentioned here may be found in Carl H. Madden, "The Money Side of 'The Street,'" New York, Federal Reserve Bank of New York, September 1959, p. 85.

asked sides of the market. Numerous additional possibilities will no doubt occur to the reader.

The separation of the two accounts for trading purposes is designed to eliminate some incorrect expectations which might arise as a consequence of the Federal Reserve Bank of New York acting as agent for others. This is particularly true when relatively large transactions must be put through the market. The market will interpret the sale of \$75 million in bills by a foreign central bank in a somewhat different way than a similar sale by the Open Market Committee. As an extreme example, the sale by the foreign central bank might be viewed as an expression of belief by foreigners that U.S. inflation will continue and that foreign balances should be taken home in gold; a similar sale by the Open Market Committee might be interpreted as a sign of "tighter money." Both of these actions would lead to a decline in the domestic money supply (or its rate of increase). However, dealers would be likely to view the former as temporarily destabilizing and the latter as a stabilizing influence on the day-to-day movement of prices in the securities market.

Large transactions are more likely to be troublesome. It is for this reason that all of them are not put through the dealer market despite occasional policy statements to the contrary. Relatively large transactions may be offset if the opposite transaction is available at the Federal Reserve trading desk. The dealers believe that offsetting transactions of this kind occur infrequently and arise only when relatively large amounts must be traded in the market.

Clearing securities transactions

Since early 1948 telegraphic transfer of all outstanding marketable debt can be made through the various Federal Reserve Banks if the transfer is necessary to complete a sale. No fee is charged for Treasury bills, certificates, or notes and bonds with less than 1 year to maturity. Nominal fees (e.g., \$10 per transfer of a single issue whose face amount exceeds \$50,000) are charged in other cases. Most dealers make use of this service,¹⁰ but at least one has found that it is an expensive way of delivering odd lots, particularly when several issues are purchased by a single customer.

The general manner in which a transaction between a dealer and customer is processed is illustrated in the following example. The customer notifies the dealer by telephone and confirms by wire that he wishes to make a purchase of \$1 million in a particular bill issue. The dealer quotes a price which if satisfactory is accepted. If the customer is located outside the second Federal Reserve district, payment is transferred through the Federal Reserve System to the Federal Reserve Bank of New York which usually credits the account of the Manufacturers Trust Co. Meanwhile, the bills have been delivered to Manufacturers Trust Co. or the Marine Midland Bank and by them to the Federal Reserve Bank of New York. The bills are retired in New York and a wire is sent to the Federal Reserve bank in the purchaser's home district which reissues the bills to the purchaser. If the purchaser resides within the second Federal Reserve district, the Federal Reserve Bank of New York delivers the securities directly.

¹⁰ There are limitations on the use of the facility in connection with new issues and redemptions and on interest payment dates.

A number of variants on this procedure are common. The customer may prefer to have the securities delivered to a bank of his choice in New York. Or, the customer may make a repurchase agreement instead of an outright purchase. Transfer of securities and payment in Federal funds may be made on the day of the transaction; i.e., a "cash" basis, or on a regular, i.e., overnight, basis.¹¹ Other transactions may call for delayed delivery if the customer wishes to avoid payment for a few days. The number and variety of transactions within this general framework is large and testifies to the agility and skill with which dealers and their customers have developed methods for accommodating a multitude of differing requirements.

The Manufacturers Trust Co. acts as clearing bank for most—but not all—nonbank dealer transactions. They record the debits and credits to the dealers' accounts in both securities and money and arrange for transfers. For this service they collect a clearing charge—currently \$10 per million for bills, \$15 per million for certificates, \$35 per million for longer maturities, and \$0.15 per bond for municipals. More recently two competitors—the Marine Midland Trust and the Irving Trust—also have entered the clearing business.

Generally bank dealers and some of the larger nonbank dealers arrange for at least some of their own clearing. As we shall see in greater detail in chapter V, clearing is closely connected with the financing of dealer positions since the transfer of securities is matched by a flow of funds. Bank dealers prefer to have the debits and credits at the Federal Reserve made directly to their own accounts. Moreover, their financing problems differ from those of the nonbank dealers and particularly those of the smaller nonbank dealers.

Recognizing Government securities dealers

In principal, anyone may become a dealer in Government securities if he has clients who are willing to execute their purchase and sales orders through his firm. In practice, entry into the business is feasible but somewhat more difficult.

One important restriction comes from the financial side. It is not essential that a prospective dealer invest a relatively large sum in his business, but it is essential that he have established arrangements for financing his position. This restriction largely reduces the set of prospective entrants to those who are "known" in the money market. As a result most of the entrants to the market have come from two sources: those who were established traders of a similar instrument, e.g., municipal bonds, and those who have acquired their experience as a trader for one of the established Government securities dealers. The latter group appears to have furnished more of the entrants over the years.

A second limiting factor comes from the Federal Reserve. New dealers can, of course, trade without any "approval" from the Federal Reserve, but to do so they must forgo important privileges. First, they are not invited to trade with the System account and as a result sacrifice a volume of transactions in bills which is reliably reported to average as high as 5 percent of the aggregate bill volume of the market during some years. Moreover, for a small bill specialist, volume with

¹¹ Cf. "The Federal Funds Market," op. cit., especially pp. 45-48.

the Federal Reserve's trading desk has amounted to as much as 10 percent of his total annual transactions in bills. Second, they would not have the privilege—reserved to nonbank dealers—of entering into repurchase agreements with the Federal Reserve. This privilege is not negligible and has provided as much as 70 percent of total financing for a nonbank dealer in recent years.¹²

Federal Reserve requirements are not designed to restrict the number of dealers. Their purpose appears to be that of assuring that the firms admitted to trading with them are financially able to fulfill their commitments and that they are willing to undertake relatively large commitments. To assure dealer solvency, up-to-date financial statements must be submitted periodically. More recently the additional requirement has been added that dealer firms must report in detail their volume of transactions, repurchase agreements, positions, and borrowing on a daily basis.

The third and probably most important restriction on the number of dealers is the profitability of the dealer business. This point will be discussed in greater detail in chapter VII. There we present some data on dealer earnings during recent years and compare the rate of return for nonbank dealers with those which occur in some other branches of the securities business. The evidence seems to suggest that prior to 1957 the relative profitability of the present dealers in Government securities was not sufficient to attract sizable financial commitments to the business from dealers in corporate or municipal bonds. The availability of equally profitable or more profitable opportunities in other branches of the securities business combined with the high degree of risk inherent in trading in Government securities limits the expansion of the number of dealers. This is probably more important than the more frequently cited reason—lack of trained personnel.

¹² See table V-3 below, p. 83.

CHAPTER III

DEALER POSITIONS

In the discussion of dealer philosophy, it was noted that central to the dealer view of his function was the fact that dealers hold inventories, that is, take positions. While there are divergent and changing views about the extent to which this should be done, only a few instances were found during the years covered by this study (1948-58) in which there were dealers with negative or zero inventories. In this chapter the available data on dealer positions are presented after a discussion of the problems associated with these aggregates. The relation of dealer inventories to the outstanding marketable debt and to the rate of interest are then considered separately. In a concluding section, an attempt is made to summarize and assess the changes which have taken place in the way in which dealers perform their function of making markets.

DEFINITIONS AND PROBLEMS IN THE MEASUREMENT OF DEALER POSITIONS

There are, unfortunately, few well-defined and generally accepted accounting conventions for this market. Divergent opinions and practices are far more common than agreements. Some of these differences apparently reflect disputes about appropriate accounting practices; others mirror differences in performance and operation. Such differences are reflected in the reports of position which dealers supplied to the Joint Economic Committee and in the supplemental data which several dealers furnished from the records which they had voluntarily submitted on a daily basis to the Federal Reserve Bank of New York.

WHAT IS TO BE INCLUDED?

Government guaranteed issues, agencies, and others

Obligations of the U.S. Government greatly exceed the total amount of Government securities. There are nonmarketable issues which are direct obligations of the Treasury and there are marketable issues guaranteed by the Treasury but issued by others—e.g., Panama Canal bonds. In addition there are outstanding nonguaranteed obligations issued by Federal Home Loan Banks, Federal Intermediate Credit Banks, the Federal National Mortgage Association, to name but a few. Several dealers in Government securities regularly take positions in these issues as well as in International Bank bonds. Many of these obligations are close substitutes for Government securities. Nevertheless inventory holdings of these obligations have not been included in the total position in governments reported here.

Municipal and State obligations have likewise been excluded. However, dealer positions in municipals and nongovernments are reported

separately below for purposes of comparing the changes over time in dealer positions in these issues with changes in dealer inventories of Government securities. For our purposes dealer positions in agency and guaranteed issues are included with their position in nongovernment securities.

These figures must be read with care, however, since the group of dealer firms included in this study is quite heterogeneous. One firm for example is a large underwriter of corporate issues and takes positions in these issues. Such issues often are held in the underwriting department but could not be effectively separated from trading positions so were included in the nongovernment total. Bank holdings of corporate or municipal issues are not generally included in the dealer department and were not included in the total holdings of nongovernment securities.

Another firm is a large dealer in a variety of nongovernment securities. They elected to separate agency and other Government obligations from the corporate and other holdings. Hence, their contribution to the aggregate figure for any year differs conceptually from the figures supplied by some other dealers. Differences in dealer accounting did not permit a uniform measure to be used for all dealers. Instead, we attempted to provide a measure which was consistent over time. Since dealer positions probably reflect the fact that the amount of outstanding corporate debt has increased faster than the amount of outstanding Government securities during this period, it is likely that there is an upward bias in the proportion of total nongovernment securities to Government securities presented below.

Repurchase agreements

Dealers were asked to include repurchase agreements as part of their position on the forms filed with the committee. However this was not always done—given the dealers' existing records and the differences between bank and nonbank dealers. Moreover, there are differences of opinion about the appropriate ways to treat repurchase agreements or RP's as they are generally known and there are different kinds of RP's.

Some agreements permit the dealer to substitute another issue for the one originally placed under repurchase. Most RP's are short-term arrangements, often for overnight or over-the-weekend financing, but some are for periods of 30 or more days. (The latter are often a means by which corporations invest funds accumulated for tax payments and seemingly vary with the proximity of tax dates.) RP's are often referred to as "buy-backs" if they involve the use of separate purchase and sale contracts. In addition, there are reverse RP's or "sell-backs," but these are never included in the dealer's position and hence need not concern us here.

There are three principal methods of handling RP's when positions are recorded: (1) All RP's regardless of maturity or other characteristics are carried as part of the dealer's position. Several dealers regarded all RP's as loans. They did not distinguish them from collateral loans or other securities which were held in position. They argue that all dealer loans are secured by collateral and that such collateral is part of the dealers' position. For them, securities held under repurchase agreements are analogous to the collateral post-

ed as security for collateral loans. (2) At the other extreme were several bank dealers and one nonbank dealer. Repurchase agreements were never included in their position. In the case of bank dealers the amount of repurchase agreements is relatively small or nonexistent. For the nonbank dealer, notes to the balance sheet indicated the amount of repurchase agreements and they were included in the position figures given here. (3) An intermediate position is taken by some dealers. An accounting difference may be based on the time dimension of the RP contract or on the source of funds. The Federal Reserve and some dealers make an arbitrary distinction between RP's with 15 days or less and those with 16 days or more to maturity. The former are treated as a source of financing to the dealer and included in the dealer's position; the latter are considered a sale and purchase by the dealer and are included in the dealer's transactions but not in his position.

One large dealer defended this dichotomy on the grounds that there is some point at which the dealer effectively loses control of the security for trading purposes. It is no longer available for delivery to a customer and does not enter into the trader's plans. Hence, he argued, it does not belong in the firm's position.

Another dealer made a distinction based on the source of funds. If the repurchase agreement is made with the Federal Reserve bank, it is included in the firm's position and looked upon as a method of financing the dealer's position. Since the Federal Reserve never makes RP's for more than 15 days, this is a distinction as to time as well as source of funds. But for this dealer, all other RP's, irrespective of the time of the contract, are regarded as purchases and sales and hence excluded from the firm's position during the period of repurchase agreement.

Fortunately, the dollar value of repurchase agreements which run for 16 or more days is relatively small. The total amount of repurchase agreements which are excluded from the position as a result of the differences in dealer accounting practices are also small. But there is an underestimate in the aggregate position figures particularly for more recent years as a result of these omissions. Since the bulk of repurchase agreements are made in Treasury bills, the absolute magnitude of the bias is undoubtedly largest in the bill inventory.

Executed versus commitment reporting

When should a dealer consider a particular security as part of his position? When should securities be taken out of the dealer's position? The answer given by most dealers is that securities available to be sold are part of a dealer's position. Whether a dealer has obtained physical possession of the securities is not, in this view, the important question. The securities may have been purchased to cover a technical short position, or they may be sold shortly after the dealer has made a commitment to purchase. Most dealers include commitments to buy as part of their position and exclude from their position securities which they have agreed to sell. This method of recording purchases and sales is referred to as "commitment reporting."

If the firm using commitment reporting draws up a balance sheet at the end of a particular day, securities which they had agreed to

purchase would be included in their position. They would be offset by a liability called "securities purchased but not yet received." When the securities are delivered, this account and the cash account are reduced by the amount of the purchase. Sales are treated in an analogous fashion. When the sale is made, the position is decreased and the asset account called "securities sold but not yet delivered" is increased. The receipt of cash increases the cash account and decreases the "securities sold" account.

One of the large dealers records increases or decreases in position only when the securities are delivered. His balance sheet has neither an asset nor a liability account for securities which the firm failed to deliver or receive. Thus his position figures are not recorded on a basis consistent with those of his competitors. We will refer to his method of reporting as the "execution basis" since only completed transactions affect his inventory.

Two points must be borne in mind. First, the difference between commitment and executed reporting is not relevant for all transactions. A large percentage of dealer operations are for Federal funds and are completed during the course of a single trading day. Only "regular," that is, next day delivery transactions or delayed deliveries are a source of difference in practice between the two methods of reporting. Second, for most years securities which dealers have failed to deliver exceed the amount of securities which dealers have failed to receive.¹ Hence, the execution basis of reporting results in an overestimate of the position of one large dealer and of the aggregate dealer position. For most years, we would estimate that this bias in the aggregate dealer position would be between 1 and 5 percent.

However, the dealer who reports on an executed basis is the same dealer who excludes repurchase agreements—other than those with the Federal Reserve—from his position report. The extent to which these two differences in his method of reporting cancel is not clear. But, it is clear that they work in opposite directions and thereby reduce the overall error in the position data.

Investment accounts

The discussion above has been concerned principally with the measurement of the dealer's trading position. But, some nonbank dealers also take positions in securities with the object of establishing a base for long-term capital gains. Securities held for this purpose are segregated into an investment account which is carefully separated from the dealer's trading account. Banks, of course, hold Governments in their investment accounts to a much greater extent than nonbank dealers, but this is not a part of their dealer function and thus is beyond the scope of this study.

The extent to which investment accounts are found on individual dealer balance sheets varies with the profitability of dealer operations, with the difference between the "yield" and "carry" of an individual issue and the expected change in the price of bonds. Corporate dealers who have experienced operating losses in past years find little or no tax advantage in long-term gains, since prior losses can be carried forward

¹ This is true for the dates on which dealers reported their balance sheets to the committee. We have not ascertained the extent to which it is true on other dates.

and charged against current profits as in any business. Thus the past earnings of dealer firms have in several years reduced the number of firms which held investment accounts. Moreover, tax considerations probably lead some corporate dealers to carry investment accounts on a personal rather than corporate basis.

A positive difference between "yield" and "carry" assures the dealer that the cost of borrowing funds will be more than offset by the yield of the securities in the investment account. A difference of one-fourth of 1 percent is reported to be sufficiently large to indicate the possibility of investment account operations. Finally, a dealer must be convinced that a change in rates will take place during the next 6 months.

Securities which are placed in the investment account are not available for trading purposes. However, a number of investment account transactions are terminated before the end of the 6-month period largely as a result of the failure of expected price changes to develop. The securities may then be mingled with those in the trading account.

Despite the uncertainty which arises from the possibility just mentioned, we have kept the investment accounts and trading accounts separate in the position statements reported here. Moreover, investments have been excluded from the statistics on dealer inventories of outstanding Government securities. The latter decision is based on the observed fact that investment in Government bonds (or speculation on movements in the rate structure over time) is not a function which is peculiar to dealers. The investment account is of interest principally as a measure of the extent to which dealers speculate on future price movements, the maturities which are selected for this purpose and the timing of dealer speculative activity.

HOW SHOULD POSITIONS BE MEASURED?

Net versus gross measures

Dealers were asked to report long, short, and net positions by maturity classes. With only a few exceptions, where short positions in bills and certificates were not available, they complied with this request. However, the data presented here are based only on net positions.

A dealer's record of long and short position in an issue is not the same as a record of gross position. The amount recorded as "long" or "short" has in many cases already been "netted out." An example will indicate how this occurs.

Suppose that on a given day a dealer has \$2 million in a particular bill issue out as a "buy back" subject to repurchase on the following day. He may sell all or part of the issue during the day to one or more customers. Assume that a single sale for the full \$2 million is made with delivery to be made on the following day. If the position statement is drawn that evening and if he uses either the execution or commitment method of reporting, his statement would show a zero balance for the long, short, and net position in the issue.² Dealers

²The dealer on the execution method would regard none of these transactions as completed or executed, hence they would be carried as notes on the trader's blotter. Even if the gross long exceeded the gross short (or vice versa) he would not record a position.

recording on a commitment basis would record the gross long and gross short position separately. Similarly, if the amount of the issue out on the "buy back" exceeds the amount of the sale, the difference would be carried as a part of the long position and conversely.

Thus short and long positions which are recorded on the reports submitted and on other dealer records are summaries of the total net long position in particular issues of the maturity class or the total net short position in other issues of that maturity class. The net position in the maturity class is of course the difference between the two and is unaffected by the dealer's failure to record gross positions. For this reason, only net position figures are presented.

Call versus maturity date

Ideally we would like to have all issues classified according to their "true" maturity. This, of course, cannot be done in advance of the actual call. Failing this it would be desirable to have all dealer records on a consistent basis for aggregation. But again dealer accounting practices differ and render the task impossible on the basis of available records.

Several dealers record maturity at nearest call date when the securities are at a premium and at final maturity date when they are at a discount in the market. This practice is based on the provisions of the Internal Revenue Code relating to the definition of taxable net income on securities.³ But, since these provisions do not apply to dealers' incomes, some dealers consistently record all of their securities according to maturity date (with the exception of the partially tax-exempt 2¾'s of 1960-65); others record all issues to call date.

In the early years of the period covered by this study, bonds rarely sold at a discount. But, more recently, the difference in reporting practice makes for some inconsistencies in the record of maturity classifications both in comparisons over time and in the aggregation of individual dealer reports. The substitution of call dates for final maturity results in some slight downward bias in the average maturity of dealer portfolios in recent years.

Par versus market versus cost price

An additional source of difference in dealer reporting for recent years results from differences in valuation procedures. In the reports for the earlier years of this study, bond prices did not deviate from par values to the extent that they have in the recent "tight money" periods. Moreover, given the rapid turnover of most dealer holdings, and the heavy concentration in bills and other short-term maturities, differences between cost and market are probably not very large in the aggregate.

Differences between par and market or cost values are likely to be more important particularly at the long end of the maturity range. In the data presented below there are two sources of difficulty. First, most dealers recorded their position at par value, but a few used cost or market. Second, some dealers who reported positions at par furnished incomplete records for certain years. In some cases, data was supplied on a cost or market basis from balance sheets. These dis-

³ A taxpayer may elect to amortize all bonds of a particular class which have been bought at a premium. If the taxpayer elects to amortize, taxable income is the coupon income earned on securities bought at a discount but the amortized income earned on securities bought at a premium.

crepancies in the method of reporting valuation result in an understatement of dealer positions particularly in the 5-year-and-over maturity class. However, it is unlikely that the totals reported are in aggregate biased downward by more than 1 or 2 percent from the par valuation since most of the large dealers value their positions at par.

TIMING OF THE REPORTS

The greatest single source of difficulty in arriving at an accurate estimate of dealers' positions occurs as a result of the reporting date. Dealers were asked to report the detailed statements of their position for December 31. Two principal problems resulted. First, not all dealers maintain their records on a calendar year base. Second, there were some particular problems associated with end of calendar year statements. These factors must be considered before we can turn to an analysis of the data.

It should be recalled that even if economic conditions remain the same there would be year-to-year differences in position reports as a result of the weekly Treasury bill auctions. Bills represent an important part of total dealer positions and the day of the week on which bill awards are made is likely to show a larger position than any other day of the week, other things equal.

Dealers on a commitment basis record their receipt of bills on the day the award is made. Both 91-day bills and 182-day bills are awarded on Tuesday. This imparts an upward bias to the bill position for years which end on Tuesday. On the other hand, as noted in chapter II, there may be some tendency for dealers to sell off their bill positions in anticipation of the weekly auction. This would impart a downward bias to those years which ended on Monday. The auction of 182-day bills was not put on a regular weekly basis until 1958 so that only data for the last year covered by the study is likely to show a strong upward bias.

TABLE III-1.—*Distribution of Dec. 31 by days of the week, 1947-58*

Day	Number of occurrences	Years occurring
Monday.....	2	1951, 1956.
Tuesday.....	1	1957.
Wednesday.....	3	1947, 1952, 1958.
Thursday.....	1	1953.
Friday ¹	5	1948, 1949, 1950, 1954, 1955.

¹ Years ending on Saturday or Sunday are included here.

The table suggests that as a result of the weekly auctions there will be some understatement of the bill position in 1951 and 1956 and probably some overstatement in 1957. The extent to which dealers are successful bidders at bill auctions varies as does the size of the auction, but on the average, dealer awards amount to about 20 percent of the weekly total. This would indicate probable limits to the overstatement of the bill position of from \$200 to \$400 million in 1957 and less in 1958.

Most dealers reported their positions on a calendar year base. However, several dealers were able to supply fiscal year information only and in some cases the fiscal year changed during the period. For all

but two of the dealers, we were able to correct this source of error by supplementary information obtained from records which most of the dealers had voluntarily submitted to the Federal Reserve Bank of New York.⁴

Finally, several dealers indicated that end of the year reports of position overstate net position. This results from several factors: the taking of capital gains and losses, balance sheet "window dressing," dividend payments by corporations, and other seasonal demands for cash by banks and corporations. Doubtless there is some tendency toward a seasonal pattern in this market particularly at the short end. Moreover, it is likely that the pattern is similar to the well-known seasonal change in the demand for money since short-term instruments are a close substitute for cash. Banks undoubtedly sell some of their bill portfolio to dealers to meet seasonal needs. However, some of the adjustment in the banking system is made through "runoff," i.e., by exchanging maturing short-term instruments for cash and hence is not wholly reflected in dealer positions.

Unfortunately, the only available data come from the Treasury-Federal Reserve study. These show weekly dealer positions for 62 Wednesdays from October, 1957 through December 1958.⁵ However, the weekly changes derived from their table are probably larger than average changes in other years for two reasons. Positions rose very rapidly after the reduction in the discount rate in November 1957, and reported positions fell \$2.5 billion in the 17 weeks following the drop in prices in June 1958. These fluctuations are probably much greater than average and thus prevent us from estimating the extent to which December positions are biased upward. Nevertheless, the data presented there show that the yearend total position for 1958 exceeds the annual average by less than \$300 million. Moreover, in this period with rapid changes in economic conditions, more than two-thirds of all week to week changes are less than \pm \$300 million, and one-half the changes are within 10 percent of the annual average total dealer position given there.

A similar analysis of changes in weekly bill positions shows that about half of the deviations are within \pm \$150 million and that two-thirds of the changes are within 20 percent of the annual average. However, the yearend bill positions exceed the annual average by more than 50 percent in 1958 and exceed the 10-week average by approximately 30 percent in 1957. Dealer interviews suggest that such yearend increases in the bill portfolio are not unique but are probably larger than usual.

Summary

The weight of the conflicting tendencies described in this section seems on balance to overestimate net dealer positions. This is probably more true of bills than of other maturities owing to the substantial increase in bill positions at calendar-year end. However, it is unlikely that the annual estimates given here exceed the annual net positions of dealers by more than 10 percent.

⁴ However, the supplements were not always prepared in a manner consistent with the method of reporting to the committee, e.g., maturity may have been by call date on one report and maturity date on the other.

⁵ Cf. Treasury-Federal Reserve Study * * *, op. cit., II, 138-139.

END OF YEAR INVENTORIES

Aggregate dealer inventories by maturity classes are shown in table III-2 based principally on year end data. Table III-3, computed from these aggregates, presents portfolio composition by maturity classes. Together these data suggest some of the ways in which monetary policies and changing economic conditions affect dealer positions. Several tendencies shown by the data should be noted:

1. Dealer positions have fluctuated greatly over the years since December 1948. They have ranged from approximately \$750 million at the end of 1950 to \$1.7 billion in December 1953 and 1957. Economic conditions seem to account for the general direction of the movements displayed. Positions are highest (in the years following the accord of March 1951) when interest rates are relatively high and are expected to fall; conversely, when interest rates are relatively low and are expected to rise, dealer positions are smaller. For example, in 1957, we observe the dealer position less than 2 months after the reduction of the discount rate. Dealers appear to have increased their portfolios in anticipation of a rise in security prices. On the other hand, 1955 and 1956 are years in which interest rates were expected to rise. For those years, dealer positions are lower. Aggregate positions for 1947, and to a lesser extent 1950, are informative in this regard. The 1947 position is extremely small even when we consider that only 13 dealers reported in that year. Dealer positions for that year end probably reflect the unpegging of the short-term rate which had been announced earlier. The observation for 1950 reflects the uncertainly engendered by the increase in the discount rate in August and the many rumors that the Federal Reserve and Treasury disagreed about the extent to which Federal Reserve operations should be directed at supporting Government bond prices at par. In both cases, increasing interest rates were anticipated and dealer positions were reduced.

2. The accord of 1951 seems to have led to an increase in aggregate dealer positions. This is suggested by a comparison of 1949, 1953, and 1957—years in which recessions started. And this is consistent with the data in chapter IV which shows that the volume of transactions increased in the years following the accord.

3. There is some slight evidence that the application of the "bills only" policy increased dealer positions in bills. The fact that bill positions are larger in 1957 and 1958 than in any of the years since 1952 in part reflects the fact that 1952, 1957, and 1958 are years which end on Tuesdays or Wednesdays. As noted above, the bill position on these dates should be larger by the unsold part of the weekly award to dealers at the auction. Similarly, if dealers generally sell out a large part of their bill position in anticipation of the weekly auction, 1951 and 1956, which end on Monday, or 1954 and 1955, which end on Friday, should present lower bill positions than might be observed during the last Tuesdays or Wednesdays of the same years. Nevertheless, it is unlikely that dealer awards at auction alone can account for all of the steady increase in bill positions since 1954. As we shall argue below, the effect of the "bills only" policy has probably been indirect, but nonetheless effective in altering the dealers' portfolio composition.

4. There does not appear to be any observable trend in long-term (over 5 years) dealer positions. This is not surprising since only one observation per year during a period of relatively rapid changes in economic conditions is given here. And the transactions data below seem to indicate that there has been a declining trend in activity in the long-term market. These declines have been interrupted from time to time by an increase in transactions in years with sharp swings in the price of long-term bonds. But, the absence of any upward trend in dealer bond positions and the decline in transactions in the over 5-year maturity class seem to imply that the "bills only" policy has failed to provide the much advertised "depth, breadth, and resiliency" in the long-term market for Government securities.⁶

5. Dealer positions in the municipal bonds and "other" issues (principally Government obligations other than direct Treasury obligations) have shown a tendency to increase during the period of observation. Like holdings of Government securities, they tend to fluctuate with changes in interest rates and economic conditions. As noted above, the stock of outstanding issues increased markedly during the 12 years covered by this study, and this must be recalled when the dealer positions are assessed. Nevertheless, it would appear likely that the failure of the long-term Government securities market to develop into a more active trading market in part accounts for the increased interest in other long-term issues by Government securities dealers. This point is reinforced somewhat by the increased number of dealers who now take positions and actively trade these other obligations.

⁶ The reader may wish to compare the annual data presented here with the weekly data on dealer positions available from the Treasury-Federal Reserve study. Unfortunately the two are not strictly comparable. As noted above, we have attempted to report positions on a commitment basis. Our data, therefore, differ from the Treasury-Federal Reserve data principally by the amount of "securities sold but not yet delivered" which is included in their totals but not in ours. Their figures overstate dealer inventories whether computed on the commitment or execution method of reporting since they include both the items which dealers have agreed to purchase and those which they have agreed to sell. The amount of their overestimate is in the neighborhood of \$1 billion at the end of 1957 and 1958 and is concentrated principally in the bill account.

TABLE III-2.—Aggregate dealer positions at end of years 1947 to 1958 classified by maturity ¹

[Millions of dollars]

Item	Years											
	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Total bills.....	81.5	49.7	255.3	236.8	466.8	767.2	627.0	226.9	268.0	458.0	762.1	917.8
Certificates of indebtedness.....	102.6	359.3	311.7	25.0	177.0	125.4	333.7	190.2	79.9	67.4	283.7	154.0
Notes and bonds under 1 year.....	19.4	57.8	42.7	146.1	141.1	101.2	356.7	285.5	121.2	151.4	251.8	122.6
Total under 1 year.....	203.5	466.8	609.7	407.9	784.9	993.8	1,317.4	702.6	469.1	676.8	1,297.6	1,194.4
Notes and bonds 1 to 5 years.....	26.2	146.0	283.5	251.1	111.3	159.6	264.5	233.0	364.5	95.8	304.6	125.3
Bonds over 5 years.....	62.3	188.9	50.1	93.9	23.4	120.7	118.6	-12.5	95.9	55.6	70.0	51.6
Total position in Government securities.....	292.0	801.7	943.3	752.9	919.6	1,274.1	1,700.5	923.1	929.5	828.2	1,672.2	1,371.3
Municipals.....	8.2	16.8	34.7	29.9	65.5	70.2	51.3	100.0	62.2	41.9	74.4	110.7
Others ¹	36.8	34.2	50.9	64.6	50.9	111.1	94.1	112.7	115.9	93.0	122.5	54.7
Number of dealers reporting position in Govern- ments ²	13	15	16	17	17	17	17	17	17	17	17	17

¹ For discussion of use of call dates versus maturity dates, description of "others" and reporting on calendar versus fiscal year, see text.

² The number of firms reporting municipals or "others" ranges from 5 (1947) to 1 (1953-55) for the former and 8 (1947) to 13 (1957 and 1958) for the latter.

TABLE III-3.—Percentage distribution of dealers' position by maturity classes at Dec. 31, 1947, to 1958¹

Item	Years											
	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Total bills.....	27.9	6.2	27.0	31.5	50.8	60.2	36.9	24.6	28.8	55.4	45.6	67.0
Certificates of indebtedness.....	35.1	44.7	33.0	3.3	19.3	9.8	19.6	20.6	8.6	8.2	17.0	11.2
Notes and bonds under 1 year.....	6.7	7.2	4.5	19.5	15.3	7.9	21.0	30.9	13.1	18.3	15.1	9.0
Total under 1 year.....	69.7	58.1	64.5	54.3	85.4	77.9	77.5	76.1	50.5	81.9	77.7	87.2
Notes and bonds 1 to 5 years.....	8.9	18.2	30.1	33.5	12.0	12.5	15.6	25.2	39.2	11.6	18.2	9.2
Bonds over 5 years.....	21.4	23.5	5.3	12.4	2.5	9.5	6.9	-1.3	10.4	6.7	4.2	3.8
Municipals, total Governments.....	2.8	2.1	3.6	4.0	7.1	5.5	3.0	10.8	6.7	5.1	4.4	8.1
Others, total Governments.....	12.5	4.2	5.4	8.5	5.5	8.7	5.5	12.2	12.5	11.4	7.3	4.0
Total municipals plus others.....		6.3	9.0	12.5	12.6	14.2	8.5	23.0	19.2	16.5	11.7	12.1

¹ See notes to table III-1.

DEALER HOLDINGS OF THE PUBLIC DEBT

One source of fluctuations in dealer holdings of various maturities which has not been considered is the change in the maturity composition of the debt. The average of outstanding maturities may decline with the passage of time or may reflect a Treasury policy of increasing, maintaining, or reducing average maturity. Changes in the composition of outstanding maturities must be considered in appraising the changes in the maturity structure of dealer positions. In table III-4 the statistics on the maturity structure of the outstanding marketable debt held by the public and the Federal Reserve banks are presented. As is well known, the average maturity of the debt has shortened in the postwar years. More than 45 percent was due or callable within 1 year at the end of 1958.⁷

Dealer positions are more heavily concentrated in the short end of the maturity structure than the total debt. In particular, their bill inventories and operations far exceed the relative importance of these items in the marketable public debt. Notes and bonds with less than 1 year to maturity occupy approximately the same relative position in dealer inventories as they do in the outstanding marketable debt. As the years to maturity or first call lengthen beyond 1 year the proportion of dealer holdings in these maturity classes declines below the relative position of such issues in the composition of the debt.

These results are not surprising in the light of the transactions data below and the differences in function which buyers seek when they purchase differing maturities. Short-term debt is principally a means of holding liquid balances. As such, it is expected to turn over rapidly. Longer term issues are often purchased by pension funds, state retirement plans, and insurance companies among others. These groups are said to be "investors" or "holders" and it is claimed that they are often willing to sacrifice yield to some extent in order to obtain a desired time distribution of cash flow. Hence much of the longer term debt does not become available to the dealer market and there is less reason for dealers holding as large a share of the outstanding issues.

These observations are also reflected in the data of table III-5 where the percentages of particular maturity classes and of the total marketable debt which dealers hold are presented. In the period during which interest rates were pegged, much of the short-term debt and particularly low-yielding bills moved into the Federal Reserve banks. Debt holders chose the secure and liquid longer term issues for their portfolios. By 1949 dealers had begun to hold a larger proportion of outstanding bill issues than of any other maturity. And, in general, their share of short-term issues exceeds their share of longer term issues since that time. This becomes more evident when it is recalled that approximately 15 percent of the marketable public debt used to compute these percentages is held by the Federal Reserve. Roughly 80 percent of the Fed's holdings in recent years has been in the under-1-year maturity class. Therefore, exclusion of the Federal

⁷ As noted earlier, dealers as a group do not consistently use either call date or final maturity date in classifying their own portfolio. We have used call dates as the method of classifying the outstanding public debt since that is the more common dealer practice during the years considered.

Reserve's inventory from the denominator would increase the dealer's share of marketable short-term debt far more than it would increase their share of the last two maturity classes.

Dealers' share of total issues in general seems to be largest early in recession after interest rates have risen and are expected to fall. Conversely, when rates are low and expected to rise, dealers hold much smaller proportions of the outstanding debt. This observation is similar to our findings about total dealer position and is subject to at least two interpretations. One view is that the dealers use their positions to speculate on changes in interest rates. Another is that dealers prepare for the changes that are about to take place in the market by adjusting their portfolios to the expected demand and supply.

These two views need not be, and in fact are not, mutually exclusive. As our description of the dealer function implies, dealers make markets to their customers by purchasing or supplying securities which the customer wishes to buy or sell. In the process, they may find that they are purchasing against a falling price or selling against a rising price. Such transactions may have a transitory effect on dealer position, i.e., may be quickly reversed. The more fundamental question raised by critics of the dealer market is that dealers hold inventories off the market during periods of rising Government securities prices and tend to be a destabilizing influence by forcing wider swings in interest rates than would otherwise occur.

The evidence from the annual data and from the share of outstanding issues is insufficient to answer the question raised. However additional evidence in the form of intrayear changes in position sheds some light on the dealer methods of operation.

TABLE III-4.—Percentage composition by maturity classes¹ of outstanding marketable debt² at 1947-58 year end

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Bills.....	9.1	7.8	7.9	8.9	13.7	14.6	12.6	12.4	13.7	15.7	16.4	16.9
Certificates.....	12.8	16.8	19.1	3.5	20.4	11.2	17.1	18.0	9.6	11.9	21.0	20.7
Notes and bonds under 1 year.....	8.7	6.6	9.3	25.6	18.0	24.1	19.4	9.4	17.7	19.0	11.3	8.7
Total under 1 year.....	30.6	31.2	36.3	38.0	52.1	49.9	49.1	39.8	41.0	46.6	48.7	46.3
Notes and bonds 1 to 5 years.....	30.1	28.0	22.6	21.9	20.1	20.3	17.2	24.9	26.5	28.7	27.6	28.5
Bonds 5 years and over.....	39.3	40.9	41.0	40.0	28.9	29.7	33.6	35.3	32.6	24.7	23.6	25.2

¹ Held publicly and at Federal Reserve banks.

² Classified to maturity or first call, whichever is earlier.

Source: Treasury Bulletins.

TABLE III-5.—Dealers' position as a percentage of outstanding marketable debt¹ by maturity classes at 1948-58 year end²

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Total bills.....	0.04	0.21	0.17	0.26	0.35	0.32	0.12	0.12	0.18	0.28	0.31
Certificates.....	.14	.10	.05	.06	.08	.13	.07	.05	.04	.08	.04
Notes and bonds under 1 year.....	.06	.03	.04	.06	.03	.12	.10	.04	.05	.14	.08
Notes and bonds 1 to 5 years.....	.03	.08	.08	.04	.05	.10	.06	.08	.02	.07	.02
Bonds 5 years and over.....	.03	.01	.02	.01	.03	.02	0	.02	.01	.02	.01
Total position.....	.05	.06	.05	.06	.08	.11	.06	.06	.05	.10	.08

¹ Defined as publicly held marketable debt plus Federal Reserve held marketable debt.

² See notes to table III-1.

MIDYEAR POSITIONS

In table III-6 dealer net positions on December and June dates are compared. These data are based on the reports for only those firms which were able to submit records on a consistent basis for both sets of dates. They indicate that over the 11-year period June positions have averaged less than December positions by approximately \$275 million and that in most years dealer positions fell from December to the following June.

When some allowance is made for the absence of three firms from the data of table III-6, the range of dealer positions appears to be between 450 million and \$1.8 billion with a mean position in the neighborhood of \$950 to \$1,000 million.

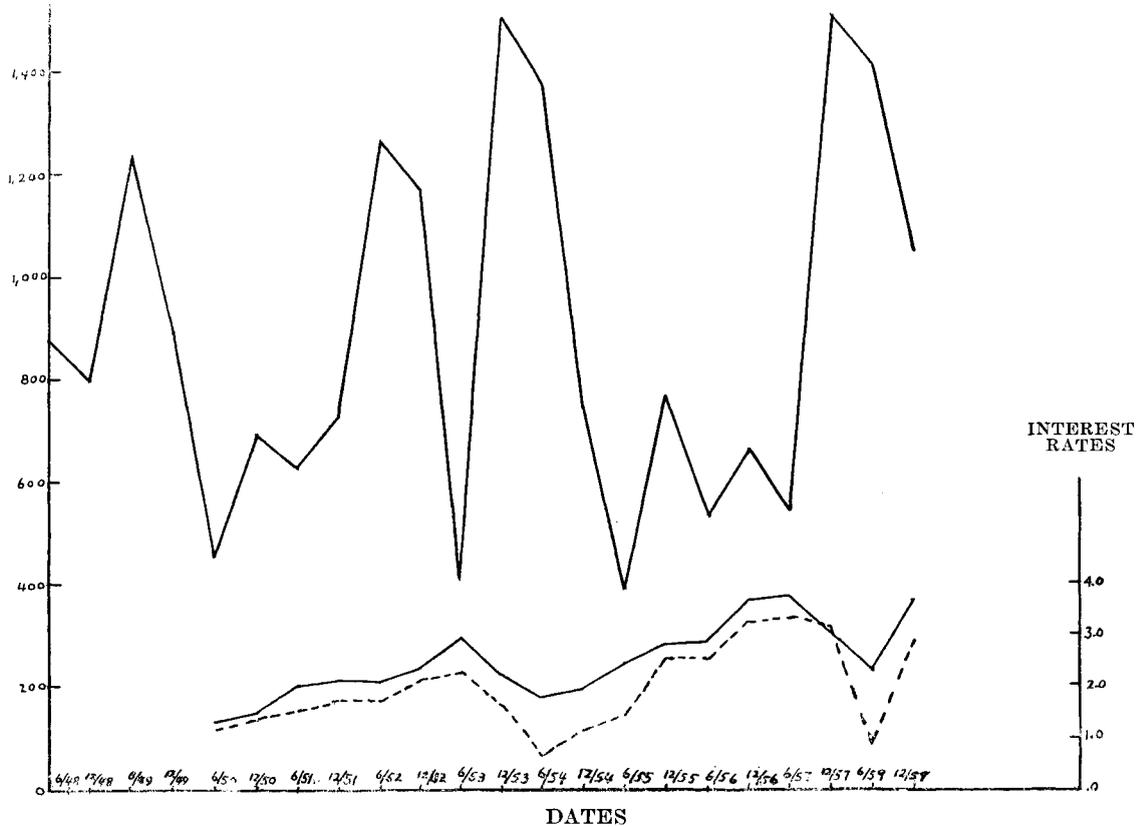
Large changes in position occur within several years, most notably from June 1949 to June 1950, December 1952 to December 1953, June 1954 to June 1955, and from June 1957 to June or December 1958. These swings in dealer holdings roughly coincide with changes in the level of economic activity. Their relationship to changes in interest rates is shown in chart III-1.

TABLE III-6.—Comparison of net dealer positions, June and December 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Number of firms.....	13	14	14	14	14	14	14	14	14	14	14
June.....	877.1	1,233.9	458.2	624.7	1,261.6	404.7	1,377.8	393.9	532.8	541.4	1,415.4
December.....	790.2	891.4	693.0	724.7	1,166.1	1,505.7	748.8	764.1	660.3	1,511.2	1,048.4

MILLIONS OF DOLLARS

CHART III-1



It is clear from the chart that dealer positions frequently move in the opposite direction to interest rate changes. From this some might conclude that dealers speculate on changes in the rate and adjust their positions accordingly. Such a conclusion might imply that dealers are able to anticipate Federal Reserve operations and can thereby profit from them. It is undoubtedly true that dealers attempt to do this, but as we shall see in chapter VII, their profit records do not indicate that they are particularly successful except when wide swings in the interest rate take place at the start of recessions. Moreover, the available evidence suggests that as a group they are no more successful in anticipating changes in interest rates than other professional traders—most notably commercial bankers. For if we consider the 17 semi-annual changes in interest rates and dealer positions shown in the chart, we find that 11 of the 17 changes in the medium-term rate are opposite to the change in dealer position but 6 are in the same direction. And 7 of the 17 semiannual changes in the bill rate are in the same direction as the change in position. We may assume that differences in seasonal pattern or fluctuations in position within the semiannual periods account for some of the observations. Nevertheless, the relatively large reductions in interest rates from December 1953 to June 1954 and from December 1957 to June 1958 were accompanied by reductions of approximately 20 percent in net position.

Other evidence (1) that there is disagreement among individual dealers about the direction of rate changes; or (2) that dealers are not in general successful forecasters of changes in Government securities prices is shown by the data of table III-7. The ratios of December to June positions indicate that in only 2 years—1953 and 1957—all dealers changed their positions in the same direction over 6-month periods. In both of the years relatively large decreases in interest rates accompanied the start of recession. Moreover, the weekly data in the Treasury-Federal Reserve study seems to suggest that the bulk of the increase in dealer positions which we observe in the latter part of 1957 did not occur until after the announcement of a reduction of the rediscount rate by the Federal Reserve Board.

From June to December 1954 the aggregate position of dealers fell more than \$600 million. Again in 1958, total net position was reduced by nearly \$400 million. During both of these periods, interest rates rose and bond prices fell. Nevertheless, 5 of the 14 dealers increased their holdings during the latter half of 1954 and 6 of the 14 added to their positions during the last 6 months of 1958. Similar results hold for other periods. These considerations seem to suggest the conclusion discussed earlier—that dealer operations are principally conditioned by the relatively short-term view which the individual dealer takes and that with the exception of periods like the fall of 1953 or 1957 and the spring of 1958, most dealers do not attempt to influence or follow the movement of the yield curve. Most often they are more concerned with day-to-day trading activities and arbitrage operations.

Furthermore, the data presented in table III-7 reveal that there are marked differences between individual dealers in the amplitude of the swings in net position. For example, dealers Nos. 4 and 5 have approximately the same average net position. And they tend to agree on the direction of change in position for most of the years examined here. But the average size of the changes for dealer No. 4 is much smaller than the average change for dealer No. 5. Similarly, dealers

Nos. 7 and 9 have approximately the same average position for the 11-year period. But while the average December position for all of the dealers included in this table is 33 percent greater than the corresponding June position, dealer No. 7 has a smaller than average change from June to December and dealer No. 9 has an average change which is substantially larger than the change for the aggregate of all dealers.

It should be recalled that these figures are aggregates and that the risk which a dealer undertakes tends to increase directly with the average maturity of the dealer's position as well as with its size. Thus, while we have attempted to compare dealers whose operations are reasonably similar, even for them day-to-day or week-to-week fluctuations in position are accompanied by opposing directions of changes in portfolio composition which go in opposite directions. Such changes alter the average risk assumed by the individual dealers. As a result, a reduction in position from a particular June to December may be accompanied by an increase in longer term maturities. A particular dealer may therefore be in a better position to profit from changes in the prices of Government securities even though he has reduced his total commitment. While there is little doubt that this happens, there is also very little evidence that it is a general phenomenon.

TABLE III-7.—Total net position last Wednesday of December/last Wednesday of June for 14 individual dealers¹

Year	Firm number													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1948.....	0.82	1.14	1.40	0.57	2.22	2.64	1.08	0.59	(²)	0.42	1.84	1.42	0.82	0.30
1949.....	.88	3.40	1.18	.03	.79	.92	.99	.83	1.84	.33	.08	.41	1.00	.98
1950.....	1.72	.57	.76	-1.25	-6.04	1.11	1.31	1.06	.96	.19	1.50	.31	1.07	.50
1951.....	2.13	.76	.23	1.13	2.49	.96	.35	1.04	.93	.74	8.00	0	1.82	1.02
1952.....	.87	.58	.63	.68	2.18	1.02	.68	.31	.28	2.25	.48	.72	.74	.87
1953.....	5.45	1.32	10.95	1.72	20.32	4.36	1.25	1.24	4.50	40.00	-4.20	11.35	9.27	1.63
1954.....	.88	1.59	1.37	.28	.15	1.21	.49	.37	.48	1.26	0.12	4.08	.30	.47
1955.....	2.02	.20	1.02	6.42	6.82	13.26	.80	.75	1.63	2.52	0	.76	3.10	3.30
1956.....	.81	1.48	1.79	.92	1.16	2.36	1.49	-.41	1.11	8.50	-2.50	1.98	.64	5.49
1957.....	3.22	1.00	3.69	1.31	45.53	5.32	1.74	-1.47	13.34	9.32	1.37	1.39	1.28	2.20
1958.....	.98	.82	1.27	.63	.19	1.18	1.86	1.62	1.30	1.50	.32	.69	.42	.52
Average..	1.80	1.17	2.21	1.33	6.91	3.13	1.10	.54	2.64	6.10	.64	2.01	1.86	1.57

¹ The average for aggregate dealer positions is 1.33 for the period covered.
Not available.

Finally, there is some additional evidence that dealer operations are more likely to be concerned with short-term changes in the money and securities markets. Some of this evidence will be discussed in chapter V when the sources of dealer financing and changes in the cost of carrying securities are examined. Other evidence is considered below in the section on dealer investments. For the present, it would appear that there is little evidence in the data which have been examined that indicates that dealers in the aggregate exercise a destabilizing influence in the market or that they tend to accentuate the amplitude of interest rate fluctuations. And there is some evidence that at the start of recession periods, they substantially increase the demand for Government securities and profit from assisting in the process by which interest rates are adjusted downward.

INDIVIDUAL DEALER PORTFOLIOS

Examination of the portfolio composition of individual dealers reveals a great deal of heterogeneity. To give some indication of the differences between individual dealers, the percentage composition by maturity classes for each dealer has been computed by dividing the sum of a dealer's 12-year inventory of a particular maturity by the sum of his total position for the 12 years. The resulting averages are presented in table III-8. While these averages do not indicate the relative size of the individual portfolios, they help to suggest the differences in approach taken by individual dealers.⁸

In chapter II, we stated that some dealers specialize in particular maturity classes while others make a market throughout the entire range. This is again suggested by the data of table III-8. Bill positions represent as little as 21 percent and as much as 61 percent of an individual dealer's inventory over the period. Likewise, several dealers on the average hold more than 80 percent of their portfolio in very short-term maturities; for others, only three-fifths of their inventory was concentrated in under-1-year maturities on the average. Similar differences occur in the long- and medium-term maturity classes.

These data are subject to many of the qualifications discussed earlier. Moreover, as noted in the table, complete records were not obtained from all firms for the entire period. Nevertheless, it seems reasonable to group some of these firms for purposes of comparison. Dealers C and O, for example, hold about the same proportion of both bills and long-term bonds; dealers K and M have very similar distributions by maturity class on the average and hold similar views of the dealer function. The distribution of their portfolio suggests that these firms took positions over the entire maturity range during 1947-58.

But, when we consider a more recent period, 1953-58, we find that dealers K and M have substantially reduced the proportion of their position in the over-5-year-maturity class while increasing the proportion of bills which they hold. Since the adoption of the "bills only" policy, the management of these firms apparently has decided to concentrate in shorter maturities either as a means of reducing the risk inherent in their position or in recognition of the failure of the long-term market to expand. Similar results hold for dealers F, G, and O; all of whom formerly held a relatively large proportion of their inventory in bonds with 5 or more years to first call. As may be seen from the table, only three dealers (A, C, and D) increased the proportion of long bonds which they held.

Conversely, 14 of the 17 dealers (or 12 of 15 dealers whose positions are shown) increased the proportion of bills in their total position during recent years. For firms G, L, and N bills represented more than three-fifths of their total inventory during the 6-year period 1953-58.

⁸ The letters assigned in place of the dealer names are the result of a haphazard selection process. As indicated earlier, dealers released their records under an agreement which barred publication of records which might reveal the position of their firm. Two small dealers whose operations are substantially different from any of the others shown here have been omitted from table III-8.

TABLE III-8.—Percentage distribution of individual dealer positions
AVERAGES FOR DEC. 31, 1947-58¹ BY MATURITY CLASS

Items	Dealer firms														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Bills.....	27.6	41.0	26.3	38.0	36.5	30.8	56.6	53.1	51.8	34.8	37.4	61.4	37.8	56.9	21.1
Certificates.....	20.6	10.8	13.4	23.8	21.5	18.5	14.9	20.4	15.1	25.4	20.6	8.6	23.6	19.0	23.8
Notes and bonds under 1 year.....	12.0	15.4	17.8	10.7	22.0	19.7	2.8	7.7	19.8	13.5	15.2	8.0	14.5	7.6	23.3
Total under 1 year.....	60.2	67.2	57.5	72.5	80.0	69.0	74.3	81.2	86.7	73.7	73.2	78.0	75.9	83.5	68.2
Notes and bonds 1 to 5 years.....	31.5	27.6	32.2	20.8	17.0	21.3	14.3	12.7	6.8	21.9	15.1	21.1	14.2	11.2	20.6
Bonds 5 years and over.....	8.3	5.3	10.2	6.7	2.9	9.5	11.4	6.1	6.4	4.1	11.5	.9	10.0	5.2	11.2
	DEC. 31, 1953-58														
Bills.....	37.0	48.7	17.6	51.9	41.1	34.2	66.1	41.0	54.8	36.1	43.0	63.9	41.6	63.3	19.1
Over 5 years.....	9.0	3.6	13.0	8.5	2.8	6.9	6.0	2.8	3.0	3.2	6.6	— .8	5.5	2.9	4.5

¹ Based on differing number of observations: 11 firms in 1947; 13 in 1948; 14 in 1949; 15 thereafter. 2 small dealers have been excluded to prevent possible recognition.

The data on individual dealer positions and the changes over time just discussed seem to suggest that most dealers have reduced their relative holdings in the long-term market in recent years.⁹ As chapter IV shows, this has been accompanied by a relative decline in transactions in this sector of the market except in years of sharp decreases in interest rates. As a result, transactions in the long-term market have become more concentrated among the few remaining dealers who are willing to undertake the risk of maintaining sizable positions in that area.

INVESTMENT ACCOUNTS

We have indicated several times that most dealers do not take large speculative positions in Government securities for capital gain. In the data which we examined, bank dealer investment accounts were excluded since these are carried as part of the bank's portfolio. Of the remaining 12 nonbank dealers, only 6 report investment accounts in 1 or more years and there is no year for which more than 4 dealers reported holding Government securities for capital gain. In aggregate, the investment accounts for all reporting nonbank dealers exceeded \$100 million in only 1 year—1957.

In part, the absence of dealer investment accounts reflects the fact that for some of the dealers, there is little tax advantage in attempting to hold securities for capital gain rather than for corporate or partnership income. Several dealers had sustained losses from their operations which could be carried forward; others are in relatively low tax brackets. More important are two characteristics of the dealer market which were suggested earlier: first, most of the dealers take a relatively short-term view when they consider the changes taking place in the market; second, there is lack of available sources willing to finance dealer positions for long periods at rates which are below the

⁹ The testimony of several dealers tends to confirm this conclusion. Cf. Hearings 6 C, 1959, pp. 1845-1848.

yield of the securities. Further, as noted above, the investment accounts of some corporate dealers probably are carried in the name of the individual principals rather than as a part of the corporation's assets.

TABLE III-9.—*Dealer investment accounts*

Year	Number of dealers reporting investments	Amount reported (millions)	Year	Number of dealers	Amount
1947	1	(1)	1953	4	43.7
1948	0	0	1954	3	28.4
1949	3	73.5	1955	4	68.5
1950	3	14.2	1956	1	(1)
1951	0	0	1957	4	236.0
1952	1	(1)	1958	3	96.8

¹ Not available under the rules covering the submission of the data.

More than half of the total investment shown in table III-9 was held by one dealer; approximately four-fifths was held by but two dealers. Both of these firms are large and active traders of long-term securities and have active research staffs. Most of their investment was confined to years such as 1949, 1953, and 1957 and coincides reasonably well with peaks in total dealer trading accounts.

Finally, it should be noted that none of the totals show negative net positions for the dealers reporting. This is equally true of the individual dealer records and reflects both the cost and difficulty of borrowing securities and the accrual of interest charges during the period in which the securities are sold short. If a difference of one-quarter percent between yield and carry is required to induce dealers to buy securities for their investment account, a difference of three-quarters percent would be required to induce short sales given the one-half percent cost of borrowing securities.

FINDINGS

Most dealers now recognize the weakness or "thinness" of the long-term market for Government bonds. This has not always been true. Until recently spokesmen for investor groups privately accused the dealers of being overoptimistic in their expectation that the long-term market would revive. Failure of the market to become more active and the closely related failure of dealers to take larger positions in bonds result from two principal weaknesses: (1) most important has been the failure of the Treasury to market long-term issues of sufficient size to permit arbitrage transactions to take place and (2) the failure of the "bills only" policy to restore the now famous trinity—depth, breadth, and resiliency—to the long-term market. These are not unrelated problems.

Two shortcomings of the dealer market are reflections of these weaknesses in monetary and debt-management policy. First, arbitrage operations between issues at the long end become difficult or in some cases impossible. In part this occurs because of the small size of many of the outstanding issues; in part because of the statutory or policy requirements of many institutional investors which prevent lending of securities. This results in a series of price quotations for many of the

small issues which are not directly based on market prices. Instead, dealers quote prices to the financial press and others by inferring what the price of the issue "should be." Attempts to execute transactions at the quoted price often cause the price to change substantially. Second, arbitrage operations over time have been important only when the Federal Reserve has given a clear indication of a policy of ease. We found little evidence that at other times dealers as a group attempt to use their positions to anticipate changes in the shape of the yield curve; e.g., by simultaneously selling in the short-term market and buying long-terms or by taking relatively large positions at the long end in anticipation of a change in interest rates.

The inability of the debt managers to increase or maintain the average maturity of the debt is not the only source of difficulty. For, whatever its relative merits for other purposes, a "bills only" policy, or any monetary policy which is to be successful in adjusting the interest rate on long-term investment, must raise or lower the intermediate or long-term rate either directly or by encouraging arbitrage operations. It is clear that recent monetary policies have not operated directly on long maturities and it seems equally clear that they have not succeeded in encouraging arbitrage between short-term and long-term maturities by assisting in the establishment of a free, active trading market. Any assistance which the Federal Reserve might render which would increase the opportunities for dealers and others to take positions in the intermediate or long end of the market for purposes of conducting arbitrage operations would assist the economy to adjust interest rates more rapidly to meet changing economic conditions.

The foregoing does not imply that there is no arbitrage or that there is little connection between the short- and long-term markets. It suggests that the opportunities for these types of transactions have not increased in recent years, in part because monetary and debt-management policies have not been designed to increase the marketability of securities in the long-term market. Since buyers or sellers are unable to carry out purchase or sales exceeding one-quarter of a million dollars (or less) in many issues without substantially changing the price, one of the primary advantages of a Government bond—its relative liquidity—is destroyed. As a result, the increased relative liquidity and higher yields available on large corporate issues, or State and municipal bonds, augment the attractiveness of these issues to institutional investors. In this way, the "bills only" policy further reduces the liquidity and hence the attractiveness of long-term Governments and contributes to the difficulty which the Treasury has in marketing future long-term issues.

CHAPTER IV

VOLUME AND COMPOSITION OF TRANSACTIONS IN U.S. SECURITIES

DEVELOPMENT OF TRADING IN THE DEALER MARKET

The present market for U.S. securities is a part of the over-the-counter securities market. Its institutions, trading practices, and transaction volume have developed over the past 180 years in response mostly to Treasury financing needs. The Treasury's demand for borrowed funds derived mostly from war finance. During the first half of the 19th century relatively small amounts of Federal Government bonds were outstanding. Not until the issuance of Federal debt during the Civil War and the use of U.S. Government bonds as backing for the note issue of national banks did the market for U.S. securities attain national importance.

The organized auction market of the New York Stock Exchange provided an adequate trading place during the periods of little activity in U.S. securities. Increases in the Federal debt and in the volume of trading in Governments focused attention on the weaknesses of an auction market in handling the large transactions typical of the trading in U.S. securities. At times of heightened activity in this market during and immediately after the Civil War, around the turn of the century, and again after the First World War, trading in Governments moved from the organized exchange into a negotiated market composed of specialized security dealer firms and a few banks. These institutions acted like the specialists on the organized exchanges. In order to provide a stable and continuous market for U.S. securities they purchased and sold large amounts into and out of their own inventories. The impact of temporary excess market supply or demand—large orders to buy or sell—was thus smoothed and erratic price fluctuations in U.S. securities were reduced.

In an auction market—or organized exchange—temporary discrepancies between orders to buy or sell result in periods of inactivity and uncertainty or in large price fluctuations. Chiefly for this reason, sellers and purchasers of U.S. securities prefer a negotiated market. Volume of trading in Governments on the organized exchange has been replaced by increased over-the-counter volume.

This development occurred during the early 1920's despite a Treasury policy of favoring trading of U.S. securities on the New York Stock Exchange. The Treasury reversed its attitude during the mid-twenties and since then has helped to strengthen the negotiated over-the-counter market in U.S. securities. At present, trading volume in Governments on the organized exchange is negligible in relation to the volume of transactions in the dealer market.

The rapid growth of the Federal debt during the thirties and forties, the increasing use of money market instruments (Treasury bills and certificates) in Federal debt management, and the rise of open market policy as the major monetary control instrument in the hand of the Federal Reserve System again heightened the need for an efficient, competitive national market for the secondary trading of U.S. securities. Thus the dealer market has developed into its present size and organization in response to (1) Treasury financing needs, (2) the economy's demand for highly liquid, easily marketable debt instruments, and (3) the role of open market policy which is conducted exclusively through this market. An analysis of the size of transactions, their composition, and of the concentration of trading activity in the dealer market has considerable significance in appraising the market's efficiency and performance as part of the monetary control system.

This chapter will deal with changes in volume and composition of transactions in the dealer market during the period from 1948 to 1958. The concentration of trading activity will be analyzed, and the trading volume in this market will be related to the stock of marketable securities, to Treasury debt management actions, and to monetary policy. To make these discussions meaningful, a description of the scope of the data and definitions of transactions are presented first.

SCOPE OF DATA AND TYPES OF TRANSACTIONS

The discussion of dealer transactions is based on the dealers' answers to the questionnaire on gross transactions in U.S. Government securities. Most of the dealers were able to report on their purchase and sale volume for all of the 11 years by types of securities and by maturity classes. In some cases, missing information was supplied by the dealers, from the daily reports of trading volume submitted in the past to the Federal Reserve Bank of New York. Two-thirds of the dealers were interviewed to establish the comparability of the reported data.¹ Varying dealer reporting methods and differences in the definition of transactions necessitate a detailed discussion of the types of transactions included in the reported data and of the methods of valuation and classification used by the dealers.

Valuation and classification by maturities

Transaction reports could be given on the basis of market value or par value. It appears that most dealers have reported volume on the basis of par value, rounded to the nearest hundred thousand. For the purposes of this study, volume data have been rounded to the nearest million dollars.

A more critical problem is presented in the classification of securities by maturities. The questionnaire asked for classification of notes and bonds by final maturities. Many of the dealers have kept their records on the basis of classification by earliest call date or final maturity. The choice often depended on the market price of the securities. Issues traded at a discount often were reported on final maturity; issues traded at a premium were classified according to

¹ It was pointed out earlier that there had been no concerted effort at obtaining agreement on reporting standards for the dealer market until the recent Treasury-Federal Reserve study and the present revamping of dealers' reporting methods by the Federal Reserve Bank of New York.

earliest call date. For the types of issues without call dates, i.e., for bills, certificates, and notes, these differences are irrelevant and would not affect comparability of the data. For bond issues, however, variations in method of classification may lead to differences in reports between individual dealers. Where earliest call date had been used, trading volume in bonds of under 1 year and of 1 to 5 years will be overstated relative to trading in the longer maturities. Since bonds have been selling at discounts more frequently during the last 3 years than in earlier years, the differences in reporting will probably be less important for the years 1956 to 1958.

It is impossible to estimate with accuracy the understatement of trading in longer maturities which is introduced into the aggregate data by the reporting of maturities on the basis of earliest call date. It appears that most of the dealers, reporting the largest part of the aggregate trading volume, have reported to the Committee and to the Federal Reserve on the basis of earliest call date whenever applicable.

Fiscal years and calendar years

Most of the dealers reported their trading volume on a calendar year basis. Some of the dealers, however, reported on fiscal years different from calendar years. No adjustments for these reporting differences could be made except in a few cases, where data from the Federal Reserve were supplied on a calendar-year basis. Fiscal years overlap with calendar years for at least 8 months in all cases, and for as much as 10 and 11 months in others. Moreover, most of the larger dealers reported on a calendar-year basis. The data are sufficiently consistent to allow for the analysis of interdealer differences and of year-to-year fluctuations in aggregate trading volume.

Another timing difference in reporting transactions is introduced with the distinction between recording transactions on a commitment basis versus an executed basis. This problem was discussed earlier. It is largely irrelevant in this context because annual volume data are analyzed. The delayed reporting of transactions by dealers on an executed basis would be critical only in the analysis of daily or weekly fluctuations of transactions volume.

Types of transactions to be included

The dealers were asked to report on purchases and sales of U.S. securities exclusive of agency bonds, broken down by type of security and by maturity classes for notes and bonds. Repurchase and resale agreements were to be excluded from transactions. From interviews with the dealers it became apparent that there exist numerous interpretations of the types of transactions which should be included in, or excluded from, the dealer reports of purchases and sales of U.S. securities.

Purchases and sales of Governments can be classified in a number of ways. First, one can distinguish them by type of customers who are parties to the purchase or sale contracts. In order of importance in the generating of dealer trading volume, these customers are commercial banks, other financial institutions, nonfinancial corporations, the Federal Reserve Bank of New York, and other U.S. securities dealers. All outright purchases from, and sales to, these institutions constitute transactions to be included in volume reports. Allotments of new securities by the Treasury to the dealers are treated as pur-

chases by most of the dealers. There are some exceptions, however, which will be discussed in connection with the trading in rights below.

A second basis for distinguishing between different types of transactions is their economic function as viewed by the dealers and their customers. Dealer purchases may constitute allotments from the Treasury of new security issues; they may represent actions of monetary restraint initiated by the open market desk; they may be part of arbitrage or tax-swapping transactions or they may be completions of repurchase agreements. As noted earlier, dealers differ about the character of repurchase agreements. The following discussion of the major types of transactions will also describe their treatment in the reported data on transaction volume.

1. Outright sales to and purchases from customers

Commercial banks and other financial institutions are the most important customers of the dealers. Outright purchases and sales are made by these customers for their investment portfolio and in adjustment of their secondary liquidity reserves. A considerable part of this business appears to be conducted with commercial banks for tax reasons. This type of activity is known in the market as "tax swapping." During profitable periods commercial banks may sell U.S. securities at a loss and offset this capital loss against their taxable net operating income. If the reserves acquired from the sale are used to purchase other securities, the operation is called a tax swap. Since the loss is fully deductible and any future gain is taxed at the capital gains rate, banks with high annual income in a particular year are encouraged to swap.

Nonfinancial corporations have become increasingly aware during recent years of the investment opportunity which short-term U.S. securities offer for temporarily idle corporate cash balances. In addition to lending money to the dealer market under repurchase agreements, nonfinancial corporations are investors in bills and certificates. The Treasury has offered special tax anticipation issues to attract more short-term commitments of corporate funds to the Government securities market. Moreover, some large corporations have their own staff of money market experts who use corporate funds to engage in arbitrage transactions.

The Federal Reserve Bank of New York appears among the customers of dealer firms in two roles. It may act as fiscal agent for foreign or Treasury accounts and it may buy or sell for its own open market account. In the execution of both functions, the Federal Reserve conducts outright purchases and sales with the dealers. Some available estimates support the conclusion that the Federal Reserve in its buying and selling for the open market account alone has contributed roughly 5 percent of dealers' total transaction volume on the average.

Two other categories of transactions are in evidence. (1) In order to fill customers' demands for purchases or sales of particular issues, the dealers must often look for the securities in the market or find another purchaser in the market if the dealer does not want to take the issue into his position. One large order to sell from an insurance company, for instance, may cause the dealer to first locate another customer who wants to buy this issue. Or, if the dealer is willing to take the offered securities into his position, the addition may increase his

position in a certain maturity range beyond the amount he desires to hold. He will then engage in transactions designed to readjust the composition of his portfolio.

One customer transaction may thus give rise to a number of position adjustment transactions. The dealers take great pride in their ability to handle large orders without disturbing the market or letting the rest of the dealers know the size and direction of their activity in the particular issues concerned.

Most of the interdealer trading seems to result from such position adjustments connected with the handling of large orders. The amount of trading volume conducted with other dealers varies between firms. It ranges from a low estimate of 10 percent of total volume for one of the larger nonbank dealers to a high of 90 percent for one of the smaller dealers. For all dealers as a group interdealer trading has ranged probably from 15 to 25 percent of all trading during the period.

(2) Theoretically all groups of customers mentioned above may engage in arbitrage transactions to gain from price differentials between comparable security issues.

Arbitraging speeds the transmission of monetary policy action from the short end of the maturity structure to the long end and facilitates the adjustment of the rate structure to changes in demand and supply in segments of the money and capital markets. To bring about these adjustments, only marginal sales and purchases, of course, are necessary. Not all holders of U.S. securities have to engage in arbitrage for rapid adjustment of interest rates to be realized. It is not clear which institutions actually engage most heavily in this type of activity. Certain financial institutions are in fact barred from engaging in arbitrage transactions by their own stated policies or by legal restrictions. In the language of the market, these institutions are said to be "locked in." The extent to which holders are locked in is an empirical question which, together with the volume and characteristics of arbitrage transactions, deserves further study.

All outright purchases and sales, regardless of the party to the contract and of the economic function of the transactions pose no serious problem of classification. They all add to the transactions volume of the dealers. Only those sales and purchases which are contracted under special terms are difficult to classify. The most important of these special transactions is the repurchase agreement in its various forms.

2. Repurchase agreements

The dealers carry positions which are large in relation to their own capital funds. They can employ their capital profitably only by financing their positions with borrowed funds. Leverage enables them to earn a competitive rate of return despite the low trading profit margins prevailing in the market. Two principal methods of financing are available to the dealers: (1) They can use the securities carried in their position as collateral for a loan from a commercial bank; (2) they can sell the securities to a supplier of funds under an agreement to repurchase the securities on a specified date at a pre-determined price.

In most dealer firms the second type of financing arrangement is recorded as a sale and as a commitment to purchase the securities

at a future date. A sales and a purchase ticket are written and add to the transactions volume of these dealer firms. If the dealers record their transactions on the commitment basis, the securities, which are no longer in the firm's physical possession, are still carried as part of the dealers' positions. The legal obligation to repurchase the securities sometime hence is strong enough to let most dealers consider securities out on repurchase agreements as a part of their position. This practice results in the recording of sales and purchases which never influence the dealers' aggregate position.

It appears that the character of RP's changes with their duration. The longer the time span of the agreements, the more likely they are to be viewed as an investment by the suppliers of the funds and as a sale by the dealer. And the longer the agreement the smaller the influence of the securities on the dealers' day-to-day trading and position decisions. The Federal Reserve Bank of New York requests the dealers to separate RP's with a duration of more than 15 days from those with shorter durations. Some of the dealers have suggested that all RP's be treated as bona fide sales; others want to distinguish between RP's as sales or loans on the same time basis as the Federal Reserve. A third opinion is that all RP's should be treated as loans.

One can take the position that, if short-term RP's are added to sales and purchases, all collateral loans should be treated equally as part of the dealers' trading volume. It really does not make any difference for the functioning of the market how RP's are classified. But it may be important to the supplier of funds. National banks, for instance, found the definition of RP's as sales and investments helpful before the Comptroller of the Currency ruled that RP's are loans and subject to the limitations under which national banks can lend money against U.S. securities. Some State chartered banks continue to classify RP's as purchases and investments. New York State for example modified its ruling only recently to permit this interpretation.²

For the purposes of this study the dealers were requested to omit repurchase and resale agreements from their reported purchases and sales. In some cases and especially for the earlier years of the reporting period, dealers were not able to separate RP's from transactions. However, for the years since 1953 during which RP's increased rapidly, most dealers were able to omit volume generated by RP's.³

Some data were available for the relationship of repurchase agreements to total trading volume for one of the larger nonbank dealers.

² One solution for this general problem has been adopted by the Federal Reserve. Repurchase agreements are reported separately from purchase and sales and are broken down by the maturity of the agreements. On the basis of this information any interested analyst could rearrange the data for his particular purposes. Whether RP's are sales and investments or merely borrowing and lending is not answered by this method of reporting. But similar difficulties are encountered in other financial areas where financing instruments are defined and separated on the basis of gradual transitions over time. Thus the distinction between money and capital markets, between short-term, intermediate-term, and long-term instruments as well as the age-old discussion over whether time deposits are a part of the money supply, pose the same definitional problem as the classification of repurchase agreements. The solution has to be arbitrary.

In a later chapter the major suppliers of funds under repurchase agreements are described. The best discussion of the large variety of forms of repurchase and resale agreements can be found in the study of the Federal funds market conducted by the Federal Reserve System referred to earlier.

³ For 1958, the total reported trading volume in this study amounted to \$353 billion. The Treasury-Federal Reserve study gives a figure of \$346 billion for the same period. The difference may result from the failure to eliminate some \$7 billion of repurchase agreement transactions in the data supplied by the dealers for 1958. This introduces a bias of about 2 percent and should be reflected mostly in an overstatement of trading volume at the short end.

RP transactions amounted to 21 percent of the dealer's total sales and purchases in 1956, 27 percent in 1957, and 19 percent in 1958. If this relationship is typical, the volume of RP transactions for the dealer market probably ranged from \$36 to \$50 billion annually during the 3 years. It is interesting to note that not only bills and certificates but also substantial amounts of short-term notes and bonds were sold under RP's by this dealer.

3. Dealer underwriting and trading in rights

The dealers participate as underwriters in Treasury offerings of both cash and exchange issues. Table IV-1 summarizes the dealers' role as underwriters of new issues of certificates, notes and bonds during the years 1953-58. The shares of the new issues which were allotted to dealers and brokers annually is given for cash issues and exchange issues separately. It is assumed that the U.S. security dealers account for almost all of the allotments to dealers and brokers which are published in the Treasury Bulletin.

Dealers play a more important role in the underwriting of bonds and notes than in the underwriting of certificates. They were allotted a higher percentage of bond issues than of note issues and appear to have been more active in exchange issues than in cash issues. The following schedule relates dealer sales of allotted new securities to total dealer sales volume in certificates and in notes and bonds. Dealer volume derived from their underwriting activities is small in relation to their total sales of certificates, notes, and bonds. New bill issues appear to be a more important source of transactions. The scanty evidence available suggests that on the average the dealers acquired about 20 percent of the regular weekly 91-day bill issues. If this ratio is applied to the Treasury bill issues for the years 1953 to 1958, the dealers have drawn down between \$15 and \$18 billion of new Treasury bills annually in the bill auctions. These

Sales of allotted new securities as percentages of total dealer sales, 1953-58

	1953	1954	1955	1956	1957	1958
Certificates.....	5.8	3.3	5.0	1.6	5.2	7.3
Notes and bonds.....	3.0	3.6	2.7	.6	2.5	2.6
Total.....	8.8	6.9	7.7	2.2	7.7	9.9

figures, related to reported dealer sales of Treasury bills, lead to the estimate that sales of new bills by the dealers have accounted for roughly 20 to 25 percent of their total sales of bills.

TABLE IV-1.—Allotments to brokers and dealers on subscriptions for public marketable securities,¹ 1953-58

	Total issues	Dealer allotment		Exchange issues	Dealer allotment		Cash issues	Dealer allotment	
		Amount	Per-cent		Amount	Per-cent		Amount	Per-cent
Certificate issues:	<i>Millions</i>	<i>Millions</i>		<i>Millions</i>	<i>Millions</i>		<i>Millions</i>	<i>Millions</i>	
1953.....	26,386	\$727	2.8	20,484	\$612	3.0	5,902	\$115	1.9
1954.....	28,463	634	2.2	24,729	442	1.8	3,734	192	5.1
1955.....	18,951	698	3.7	10,569	462	4.4	8,382	236	2.8
1956.....	19,023	140	.7	15,802	122	.8	3,221	18	.6
1957.....	44,326	671	1.5	40,956	666	1.6	3,370	5	.1
1958.....	36,365	1,045	2.9	32,798	941	2.9	3,567	104	2.9
Note issues:									
1953.....	11,172	230	2.0	11,172	230	2.0			
1954.....	9,257	839	9.1	2,897	276	9.5	6,360	563	8.8
1955.....	27,094	776	2.9	24,562	714	2.9	2,532	62	2.4
1956.....	14,165	248	1.8	14,165	248	1.8			
1957.....	8,705	665	7.6	4,620	363	7.8	4,085	302	7.4
1958.....	9,233	507	5.5	4,078	136	3.3	5,155	371	7.2
Bond issues:									
1953.....	6,213	597	9.6	1,748	269	15.4	4,465	328	7.3
1954.....	21,738	872	4.0	21,738	872	4.0			
1955.....	2,745	407	14.8	1,924	354	18.4	821	53	6.4
1956.....									
1957.....	1,311	131	10.0				1,311	131	10.0
1958.....	15,588	1,972	12.6	12,969	1,691	13.0	2,619	281	10.7

¹ Excludes the issuance of 1½ percent Treasury notes available in exchange to holders of nonmarketable 2¾ percent Treasury bonds, investment series B, 1975-80, and special allotments to Government accounts in 1957.

Most of the dealers reported the allotment of new securities as a purchase. This seems to have held true for all allotments of Treasury bills and other securities issued for cash. The treatment of the transactions involved in exchange issues has not been so uniform. In a refunding the maturing issue carries with it the right to subscribe to the issue offered in exchange. Investors holding these rights often are not interested in adding the exchange issue to their portfolios. They have the option of demanding cash for the maturing issues or selling the maturing securities to investors interested in acquiring the issue offered in exchange or the rights.

Rights trading often takes place in advance of Treasury announcements of refundings and reaches its peak during the subscription period. The purchasing of rights by the dealers is normally paralleled by sales of the new exchange securities on a when-issued basis immediately following the Treasury announcement and during the subscription period.

The dealers act as quasi-underwriters in providing a market for rights; i.e., the maturing securities. This dealer action may help the Treasury to increase the proportion of the expiring issue exchanged. Successful execution of this function depends on the condition of the money market at the time and on the attractiveness of the terms of the new securities. If the market views the terms of the new issue as more favorable than those on existing comparable instruments, the maturing issue will go to a premium. Holders of the rights who perceive better alternatives will sell their rights. Through arbitrage in the dealer market the price differentials between the maturing, new, and comparable existing issues are reduced or eliminated. If the terms of the new issue offer no advantage over existing comparable issues, the rights will not go to a premium unless the rate on the maturing

securities exceeds market rates on money market instruments of the same maturity.

There are three possible courses of trading in rights issues. (1) The dealer purchases rights and holds them for exchange into the new issue. He then sells the new issue after allotment. (2) He acquires rights and offsets the purchase with a sale of the new security on a when-issued basis. (3) The dealer acquires the rights and resells them to an institution (or individual) interested in acquiring the new issue. The course of action chosen will depend on the dealers' expectations about short-term changes in the money market and the relative prices of the rights and of the new issue.

In this context it should be noted that some dealers have made a practice of recording the exchange of rights for the new issue under the trading courses (1) and (2) described above as both a sale and a purchase of securities. As a result they would record and report four transactions where most dealers would have reported only two: the purchase of the rights and the disposition of the new security after allotment or on the when-issued basis. In view of the relatively small proportion of sales of new exchange issues to total dealer sales, this recording and reporting difference does not affect the comparability of the data significantly.

VOLUME OF DEALER TRADING

The preceding sections described the types of transactions included in the reported dealer trading volume which are summarized in table IV-2. Aggregate dealer trading volume has tended to rise over the entire 11-year period. This upward trend was interrupted in only 3 years, 1949, 1951, and 1955. The decrease in trading volume in 1949 is small, but the other 2 years show substantial declines; 1953 and 1956 show only small increases in volume. Among the other 5 years in which trading activity increased, 3 years stand out because of substantial increments over preceding years: 1950, 1954, and 1958. The following analysis of the determinants of fluctuations in trading volume will focus on the experience during the 5 years with rapid downward or upward changes in trading volume.

Five explanations of the secular increase and of year-to-year changes in trading volume will be discussed. (1) Trading volume may move in proportion to the stock in trade, in this case of course with the amount of public marketable U.S. securities outstanding. (2) Changes in the composition of the U.S. public marketable debt, i.e., in the average maturity of the debt, may increase or decrease the trading volume in the dealer market. (3) The underwriting activity of the dealers in U.S. securities may add to their trading volume in years of large financing activity by the Treasury. (4) Increases or decreases in the amount of securities outstanding may induce trading activity designed to achieve desired portfolio adjustments by investors and dealers. In other words, retirements, exchanges, or cash offerings may cause trading volume to increase or decrease temporarily. (5) Changes in monetary policy, in the level and structure of interest rates and in the demand and supply situation in the money and capital markets may cause trading volume to increase or decrease through the encouragement or discouragement of portfolio readjustments, arbitrage operations and speculative activity.

TABLE IV-2.—*Total transactions volume and rates of change in volume by maturity class, all reporting dealers, 1948-58*¹

[In millions of dollars and in percentage of 1948]

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Total transactions reported.....	177,489	176,116	228,753	194,460	217,555	219,225	285,341	262,358	262,994	286,999	353,005
Bills.....	100	108	122	131	153	156	176	165	181	221	218
Certificates.....	100	102	102	36	88	68	103	76	49	70	78
Notes and bonds, all.....	100	82	144	112	84	90	154	143	140	102	187
Under 1 year.....	100	68	245	241	98	160	191	108	205	155	238
1 year to under 5 years.....	100	75	129	68	91	81	170	203	183	145	251
5 years and over.....	100	93	102	75	71	59	123	117	86	46	117
All securities under 1 year.....	100	102	130	116	128	132	157	134	145	171	181
Total transactions reported.....	100	99	129	110	122	124	161	148	148	162	199

¹Total transactions are available for all dealers; detail is based on 15 dealers only.

The relationship between securities outstanding and trading volume can be expressed as the ratio of purchases or sales to the stock of securities outstanding. For this purpose, total trading volume⁴ figures have been divided in half in order to obtain a measure of turnover. Table IV-3 presents the turnover ratios of outstanding U.S. public marketable securities by type of instrument and by maturity classes.

TABLE IV-3.—*Ratios of sales volume to securities outstanding at the end of calendar years 1948-58*

	All securities	Bills (quarterly sales)	Certificates	All notes and bonds	Notes and bonds under 1		Notes and bonds 1 to under 5		Bonds 5 years and over	
					Call ¹	Final maturity	Call ¹	Final maturity	Call ¹	Final maturity
1948.....	0.34	0.81	0.69	0.26	0.69	1.96	0.22	0.31	0.22	0.16
1949.....	.36	.86	.64	.22	.34	.77	.20	.18	.21	.19
1950.....	.51	.89	.35	.33	.45	.65	.37	.29	.24	.22
1951.....	.42	.72	.23	.36	.67	129.00	.22	.14	.26	.21
1952.....	.42	.70	.97	.23	.19	.38	.29	.23	.23	.18
1953.....	.41	.79	.48	.25	.38	.42	.29	.38	.16	.13
1954.....	.57	.89	.67	.43	.92	1.12	.41	.55	.31	.25
1955.....	.50	.73	.89	.35	.27	.34	.45	.51	.30	.25
1956.....	.48	.71	.47	.37	.45	.56	.38	.42	.30	.24
1957.....	.47	.82	.37	.30	.59	.85	.30	.30	.17	.15
1958.....	.64	.73	.39	.52	1.12	2.63	.48	.46	.37	.32
Averages of the 11 ratios.	.46	.79	.56	.33	.55	2.97	.33	.34	.25	.21

¹ The stock of outstanding notes and bonds is classified according to final maturity or earliest call date under "Call," according to final maturity only under "Final maturity."

² The 1951 ratio was omitted in the calculation of the average ratio.

For notes and bonds, two turnover ratios are presented. One is based on the classification of the securities according to final maturity or earliest call date where applicable; the other is based on the classification according to final maturity only. Table IV-4 summarizes the outstanding public marketable debt under both classifications. As was pointed out earlier, the classification by maturity or earliest call date seems to be the more appropriate one for purpose of comparison with the volume data reported by the dealers. But since some of the dealers reported volume in bonds on the basis of final maturity, both turnover rates are given in table IV-3 to establish a relevant range within which the true turnover rate will fall.

⁴ Purchases and sales for the dealers in the aggregate as well as for individual dealers have each contributed almost constantly 50 percent of total trading volume. Any excess of purchases over sales would indicate a buildup of positions, and any excess of sales over purchases would be a reflection of the liquidation of positions. Minor recording and reporting discrepancies might also at times account for small deviations from the basic equality of purchase and sale volume for a year. The organized securities exchanges treat purchase and sale of a security as one transaction. The same practice has been followed here.

TABLE IV-4.—*Outstanding public marketable U.S. securities, end of calendar years 1948-58*

[In millions of dollars]

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
All securities.....	157,483	155,124	152,450	142,686	148,581	154,630	157,832	163,251	160,374	164,191	175,586
Treasury bills.....	12,224	12,319	13,627	18,102	21,713	19,511	19,506	22,313	25,179	26,857	29,748
Certificates.....	26,525	29,636	5,373	29,078	16,712	26,386	29,458	15,741	19,023	34,554	36,364
Notes and bonds, all.....	118,734	113,169	133,450	95,506	110,156	108,733	109,868	125,197	116,172	102,780	109,474
Due or callable:											
Under 1 year.....	10,329	14,431	29,013	25,610	35,836	30,030	14,865	28,828	30,550	18,621	15,227
1 to under 5 years.....	44,053	35,067	33,378	28,678	30,196	26,675	39,267	43,199	45,963	45,367	50,013
5 years and over.....	64,352	63,671	61,059	41,218	44,124	52,028	55,736	53,170	39,659	38,792	44,234
Final maturity:											
Under 1 year.....	3,648	6,343	27,017	102	18,613	27,338	12,254	22,576	24,354	12,957	6,504
1 to under 5 years.....	30,105	38,983	42,082	45,322	37,628	20,106	29,606	38,307	41,021	46,513	52,319
5 years and over.....	84,981	67,843	64,351	50,082	53,915	61,289	68,008	64,314	50,797	43,310	50,651
All securities under 1 year:											
Due or callable.....	49,078	56,386	58,013	72,790	74,261	75,927	62,829	66,882	74,752	80,032	81,339
Final maturity.....	42,397	48,298	46,017	47,282	57,038	73,235	60,218	60,630	68,556	74,368	72,616

Trading volume in all securities has ranged from a low of 0.34 percent of the total amount of securities outstanding in 1948 to a high of 0.64 percent in 1958. The variation around the mean of the annual ratios (0.46 percent) is too large to allow for the acceptance of the hypothesis that trading volume changes in proportion to the stock of outstanding securities. The widest variations from the mean occurred during the years which show the largest increases in trading volume. For the 2 years of large decreases in volume, the turnover rates for all securities fell short of (1951) and exceeded (1955) the median ratio for all years while the stock of securities decreased during 1951 and increased in 1955. During years of large increases in volume (1950, 1954, and 1958) the turnover of all outstanding securities increased over preceding years and exceeded the average rate of turnover for all years. In 1950 the increase in the rate of turnover was offset partially by a decrease in the stock of outstanding securities; in 1954 and in 1958 increased turnover was reinforced by a rise in the public marketable debt.

This evidence leads to the conclusions that (1) trading volume does not change in direct proportion to the amount of public marketable securities outstanding. Frequently the stock of securities and trading volume move in opposite directions. (2) Over the 11-year period both rates of turnover and amount of securities available for trading have increased. Causes of the observed variations in turnover during the 5 years of abrupt increases or decreases in trading activity and the secular increase of the rate of turnover for all securities remain to be explained.

Table IV-5 gives the percentage composition of the outstanding public marketable debt at the end of the calendar years 1948-58, classified by both final maturity and earliest call where applicable. The data reflect the shortening of the average maturity of the public debt from 1950 to 1953 and, again, after 2 years of interruption, from 1955 to 1957. The reduction in the proportion of bonds with over 5-year maturities is especially noticeable. This development must be compared with the data in table IV-3 which show that rate of turnover of classes of outstanding securities decreases with the increase in number of years to maturity. Bonds with a maturity of 5 years and more have turned over during the period at an average rate of 0.25, while certificates showed a turnover rate of 0.56, and bills turned over at the rate of 0.79.

TABLE IV-5.—Percentage composition of public marketable U.S. securities, end of calendar years, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
All securities.....	100	100	100	100	100	100	100	100	100	100	100
Treasury bills.....	8	8	9	13	15	13	12	14	16	16	17
Certificates.....	17	19	4	20	11	17	18	10	12	21	21
Notes and bonds, all.....	75	73	88	67	74	70	70	77	72	62	62
Due or callable:											
Under 1 year.....	6	9	26	18	24	19	9	18	19	11	9
1 to under 5 years.....	28	23	22	20	20	17	25	26	29	28	28
5 years and over.....	41	41	40	29	30	34	35	33	25	24	25
Final maturity:											
Under 1 year.....	2	4	18	1	12	18	8	14	15	8	4
1 to under 5 years.....	19	25	28	32	25	13	19	23	26	28	30
5 years and over.....	54	44	42	35	36	40	43	39	32	26	29
All securities under 1 year:											
Due or callable.....	31	36	39	51	50	49	39	42	47	48	47
Final maturity.....	27	31	31	34	38	48	38	38	43	45	42

The rate of turnover for Treasury bills has remained fairly stable over the period. The annual rates for certificates have fluctuated more widely, probably because of the wide fluctuation in the stock of certificates outstanding and the large holdings of these instruments by the Federal Reserve System. In contrast, the rates of turnover for notes and bonds of all maturities have not only shown wide annual fluctuations but have also tended to increase during the last 5 years of the period over the level which prevailed in the earlier years. The secular increase in the rate of turnover of all securities was apparently caused by the shift in maturity composition of the outstanding public marketable debt toward the short end and by the higher rates of turnover for notes and bonds during the 5 years 1954-58.

The proportion of allotments of new securities to dealers' total trading volume is not large enough to account for the observed variations in trading volume. This conclusion would not be changed if the allotments of Treasury bills were added to the allotments of new securities. Other factors must be considered.

The size of the stock of outstanding securities and its maturity composition were not the principal causes of changes in trading volume. But this conclusion holds only for the distributions of maturity which have been observed during the postwar years. For it is doubtlessly true that a large permanent change in the maturity composition of the debt, e.g., a major refunding into longer term maturities, would alter both the distribution of the debt among holders and the trading characteristics of particular maturities. Under these conditions, longer term securities would become somewhat more marketable than they presently are. Changes in turnover ratios for particular maturity classes would be likely to follow. Moreover, the effect of changes in the size and composition of the stock and their effect on trading volume in a given year has not yet been discussed.

The stock of U.S. public marketable securities increased in 6 of the 11 years and decreased in 1948 through 1951 and in 1956. There is no correlation between the absolute changes in the stock of securities and the changes in trading volume as a comparison between tables IV-4 and IV-2 shows. However, in most postwar years, changes in the stock have been small relative to the total and the methods by which the stock of marketable securities was changed and the types

of securities retired or issued may have important influences on the rates of turnover and the resulting trading volume.

The first observed sizable change in trading volume took place in 1950. This is also the first postwar year with large Treasury re-funding operations in intermediate maturities. Roughly \$39 billion of Treasury notes were issued in exchange during the year. This suggests some relationship between Treasury financing operations and the dealers' trading volume. Nineteen fifty-four is another year with a large amount of financing operations. \$45.5 billion of certificates, notes, and bonds were issued for cash (\$10 billion) and in exchange for maturing securities (\$35.5 billion); 1954 also shows one of the large increases in dealers' trading volume.

In 1958 \$11 billion of securities other than Treasury bills were issued for cash, and \$28 billion was exchanged. In 1955, large Treasury financing was undertaken but trading volume declined during the year by a substantial amount. Another exception to the apparent rule that the amount of Treasury financing influences changes in trading volume is the experience of 1953. The Treasury issued almost \$31 billion of securities during the year, but trading volume remained virtually unchanged. On the other hand, trading volume declined substantially during 1951 while Treasury activity was relatively low.

It appears that the amount of financing undertaken by the Treasury is related to the increases or decreases in dealers' trading volume in some years and is a leading cause of changes in the volume of trading. The distribution of Treasury offerings between cash and exchange issues, however, does not help to explain the failure of trading volume to respond to large financing activity in 1953. Cash offerings were attractive to many commercial banks because of the advantages of subscription through the tax and loan accounts during a recession. This practice may have resulted in the selling off by the banks after the interest advantage was realized and this could have increased volume subsequent to Treasury cash issues. On the other hand, exchange issues invited speculation in rights often well before the announcement of the issue and caused active rights trading during the subscription period. It is likely that exchange issues induced more transactions in the dealer market relative to their size than did cash issues. But the difference in ratio of cash issues to exchange issues between 1953 and 1954 is not sufficient to explain the differences in trading volume during the 2 years.⁵

Both 1954 and 1958 were periods of monetary ease. Large Treasury financing activity coincided with lowered discount rates and an increased supply of funds to the money market by the Federal Reserve. The expectation of further antirecessionary measures and the provision of longer term securities by the Treasury invited purchases of the new issues for price appreciation. Moreover, offerings of alternative investments decreased.

The dealers felt these effects doubly. Their own expectations led them to increase their portfolios to take advantage of the expected wider spreads between acquisition and sale prices. The demand for U.S. securities facing them in the market led to increasing levels of sales which in turn necessitated additional positioning of securities

⁵ An extreme example of trading activity induced by an exchange occurred in June 1958. This is considered extensively in the Treasury-Federal Reserve Study, Part II and in Hearings, 1959 Parts 6A, B & C.

on the part of dealers.⁶ Policies of monetary ease thus reinforced the impact on dealers' trading volume of the issuing of new securities by the Treasury.

In periods of monetary restraint the opposite occurs. Dealers hesitate to take large positions in periods of generally declining interest rates. This situation seems to have prevailed in 1953 and 1955, when large Treasury financing operations coincided with a practically unchanged trading volume and a sharp decrease in the volume of dealer trading, respectively. In these 2 years and during other periods of monetary restraint virtually no bond issues were offered by the Treasury; during 1954 and 1958 large bond issues were brought on the market.

The offering of shorter maturities in prosperity further reduces total speculative interest because of smaller price fluctuations which accompany interest rate changes at the shorter end of the maturity spectrum. While there seems to be considerable speculative interest in U.S. securities during times of falling interest rates both within and outside of the dealer market, this interest diminishes sharply during periods of rising interest rates. Also, as we reported earlier, dealers view speculative short sales in Governments as relatively risky and expensive.

Many of the investors purchasing new issues during periods of rising interest rates probably buy them for liquidity reasons. The terms offered by the Treasury are not attractive enough to divert investor demand from other segments of the capital markets. The offering of short-term securities and the demand for liquid instruments combined to cause the decreases in dealer trading volume during the years 1951 and 1955. As a result, 1951 was a low profit year for the dealers, and in 1955 the dealers as a group lost money. This may have further discouraged them from taking positions or from shading prices quoted to customers to prevent further increases in position.

In conclusion it can be stated that changes in the rates of turnover and dealers' trading volume are related to a number of factors. Among these the direction of change in monetary policy probably ranks first in importance. Treasury financing actions rank second and act as a reinforcing factor. The size of the stock of outstanding public marketable securities and its maturity composition are also important but more for the secular trend in trading volume than for the changes in turnover from year to year. Subsidiary, but nevertheless important influences, are the failure of the Treasury to compete effectively with other segments of the capital markets during tight money periods and the growing sophistication of an increasing number of market participants about the magnitude of changes in bond prices. The last force was felt especially during 1958, the year showing the largest absolute and relative increase in dealer trading volume. Attractively priced new issues and the expectation of continued antirecessionary measures induced many old and new market participants to take positions in the U.S. securities market. With unchanged debt management policies, similar forces can be expected to become increasingly effective during periods of tight money policies in the future.

⁶ Through the process of arbitrage, price appreciation was carried throughout the maturity spectrum and invited speculation in old issues as well as in the new securities offered by the Treasury.

COMPOSITION OF DEALER TRADING

The composition of trading volume in the dealer market is determined by the same factors responsible for the changes in trading volume. Only the emphasis changes from the influence of monetary policy to the reactions to it by the Treasury in form of its debt management operations. Table IV-6 presents the composition of trading volume by types of securities and maturity classes. The strongest trends over the entire period are the increase of Treasury bill volume as a proportion of total dealer transactions and the decreasing importance of long-term Treasury bonds. These developments appear to be a direct reflection of changes in debt management practices. Despite the pronounced goal of lengthening the maturity of the public debt, the Treasury has not been able to realize its objective in the presence of prevailing monetary policies and developments in the capital and money markets.

TABLE IV-6.—*Composition of total trading volume, all reporting dealers, 1948-58*

[Items as percentages of total transactions]

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Treasury bills.....	44.6	49.2	43.4	55.9	59.2	60.6	51.3	53.3	57.9	66.4	54.7
Certificates.....	20.7	21.8	16.9	7.1	15.7	12.4	14.0	11.4	7.3	9.8	9.0
Notes and bonds under 1 year.....	8.1	5.7	15.7	18.6	6.8	11.3	10.1	6.3	11.0	8.4	10.8
Notes and bonds over 1 year, under 5 years.....	10.7	8.2	11.0	7.0	8.5	7.6	11.9	15.7	14.0	10.4	15.1
Bonds over 5 years.....	15.9	15.2	12.9	11.4	9.8	8.2	12.8	13.4	9.7	4.9	10.4
Total transactions.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All notes and bonds over 1 year.....	26.6	23.4	23.9	18.4	18.3	15.8	24.7	29.1	23.7	15.3	25.5
All securities under 1 year.....	73.4	76.7	76.0	81.6	81.7	84.3	75.4	71.0	76.2	84.6	74.5
Discrepancy.....	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
Number of dealers reporting.....	15	15	15	15	15	15	15	15	15	15	15

The distribution of trading volume between all securities with maturities under 1 year and notes and bonds maturing in 1 year and more has remained fairly stable over the period. Trading in notes and bonds of maturities up to 5 years took the place of trading in long-term bonds. The volume of trading in certificates has declined generally, mostly because of the large holdings of these instruments by the Federal Reserve. Large annual changes in the stock of certificates outstanding have accounted for the fluctuation in their proportion of dealer trading over the 11-year period.

The aspects of composition of dealer trading which have not been covered by the discussion in the preceding section of this chapter are the interdealer differences. Table IV-7 presents individual dealers' ratios. The table shows the ratio of trading volume in a particular maturity to total trading volume. The data presented are for dealers with the highest and lowest annual ratios for each maturity class. Averages for the group as a whole are also shown.

TABLE IV-7.—Composition of trading volume—Annual high, low, and average ratios for individual dealers, 1948–58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
As percentages of total transactions:											
Bills:											
High.....	73.7	77.2	73.8	90.8	99.8	97.3	92.8	95.2	97.4	96.3	92.7
Low.....	1.1	.7	15.4	29.4	23.7	41.7	35.7	19.8	37.0	56.6	42.4
Average.....	39.4	43.6	38.1	54.4	58.5	61.9	53.5	54.7	62.5	69.7	57.6
Certificates:											
High.....	27.4	33.8	29.0	18.7	23.2	15.8	21.2	15.2	11.0	13.0	11.2
Low.....	11.8	8.4	6.3	.9	.2	1.7	4.2	2.6	.3	1.9	2.6
Average.....	20.0	20.2	15.8	5.8	13.2	11.2	11.1	8.8	6.0	8.3	7.7
Notes and bonds, under 1 year:											
High.....	11.9	14.9	25.0	27.4	10.8	18.6	14.7	12.4	18.6	12.8	16.9
Low.....	3.7	1.5	3.8	5.2	.1	.5	5.7	.3	.3	.5	1.8
Average.....	6.6	5.7	13.9	16.0	6.0	9.5	9.5	6.5	9.4	6.4	11.1
Notes and bonds, 1 to under 5 years:											
High.....	22.2	16.5	18.9	16.2	13.3	14.3	18.7	32.5	21.5	18.6	21.2
Low.....	5.5	3.6	8.0	1.2	4.2	.4	2.3	1.5	1.1	1.2	.9
Average.....	12.0	9.5	12.2	9.0	7.9	7.3	12.2	15.8	12.9	10.3	12.5
Bonds over 5 years:											
High.....	56.2	68.3	68.5	85.3	63.2	32.7	34.0	32.8	18.5	11.4	30.3
Low.....	5.2	5.0	3.9	2.0	3.4	.1	.6	.3	.9	.1	2.0
Average.....	20.6	21.0	19.3	19.4	16.0	10.0	13.7	14.3	9.1	5.2	11.8

Dealers specializing in particular classes of securities show the high ratios for these securities in most of the 11 years. One dealer, for instance, accounts for 10 of the 11 annual high ratios of bill volume to total volume. Another dealer shows the lowest ratio of bill trading to total trading of all dealers during 5 of the 11 years. The average ratio of bill volume to total trading indicates however, that bill trading accounts for most of the trading volume for the majority of dealers. Six of the dealers derived more than 60 percent of their total volume in at least 5 of the last 6 years from trading in bills—among these six dealers are four of the five bank dealers.

Similar specialization is apparent for other types of securities. The annual high ratios of certificate volume to total trading for the last 5 years for instance are those of one larger nonbank dealer. The same firm also accounts for four of the high annual ratios in trading of notes and bonds maturing in less than 1 year. Some smaller nonbank dealers appear as specialists in long-term bonds. One of these firms had the highest ratio of trading in long-term bonds to total trading in 8 of the 11 years.

For the dealers as a group as well as for individual dealers the table shows that the bill volume ratio increased during periods of tight monetary policies and decreased during periods of monetary ease. The opposite can be observed for the trading ratio in the long-term bonds which decreases with rising interest rates and increases with a fall in the level of interest rates. This again suggests that monetary policy in combination with the Treasury's financing policies and actions is an important determinant of the composition of dealers' trading volume as well as of changes in total volume.

CONCENTRATION OF TRADING IN THE DEALER MARKET

One frequently used measure of concentration in an industry is the percentage of total industry sales accounted for by the largest firms. Total transactions of individual dealers are used here as the measure

of sales. Table IV-8 gives the share of market accounted for by the three, five, and eight largest dealer firms. Besides the annual share of total transactions executed by these three groups of firms, a further breakdown by types and maturity classes of securities is provided.

TABLE IV-8.—Share of market transactions, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	Average 1948- 58
Total transactions:												
3 largest firms.....	46.3	42.6	42.5	43.1	43.3	45.0	43.8	43.7	41.8	43.7	41.8	43.4
5 largest firms.....	66.0	62.0	62.1	61.3	60.9	60.6	60.3	61.8	59.7	61.1	61.2	61.5
8 largest firms.....	87.3	84.9	85.1	82.3	81.8	81.7	80.4	81.9	81.4	81.5	82.1	82.8
Number of reporting dealers.....	16	16	16	16	16	16	16	16	16	16	16	-----
Transactions in—												
Bills:												
3 largest firms.....	43.4	45.1	49.3	47.3	44.9	47.1	42.7	43.5	40.6	45.7	47.0	45.1
5 largest firms.....	65.3	67.5	71.1	68.4	64.9	64.0	62.2	66.7	61.8	64.6	64.8	65.6
8 largest firms.....	87.4	86.2	89.5	87.6	88.5	86.3	84.4	85.4	83.6	84.4	84.0	86.1
Certificates:												
3 largest firms.....	47.1	44.9	47.2	63.1	53.5	51.5	58.8	57.6	53.1	58.1	53.1	53.4
5 largest firms.....	67.6	65.6	67.1	77.9	70.2	69.2	74.1	74.8	69.8	73.7	72.6	71.1
8 largest firms.....	88.4	87.5	87.2	91.8	91.7	88.2	91.4	91.9	90.8	90.3	89.7	89.9
Notes and bonds, under 1 year:												
3 largest firms.....	55.8	55.6	52.3	50.8	53.0	51.9	47.1	45.1	59.0	62.3	48.2	52.8
5 largest firms.....	71.5	72.5	69.7	69.0	71.9	69.7	67.1	65.2	74.3	77.7	67.9	70.6
8 largest firms.....	88.2	89.9	89.9	89.7	90.4	88.2	88.2	87.5	90.4	92.4	87.3	89.3
Notes and bonds, 1 to under 5 years:												
3 largest firms.....	50.8	44.6	43.7	40.2	55.8	56.2	46.0	50.8	53.2	49.1	55.1	49.6
5 largest firms.....	69.5	63.2	63.4	61.1	72.4	71.5	66.1	68.9	69.6	65.9	70.4	67.4
8 largest firms.....	87.3	84.8	87.6	85.0	91.1	87.9	86.4	88.2	88.9	87.5	90.0	87.7
Bonds, 5 years and over:												
3 largest firms.....	53.7	51.9	52.4	53.9	51.1	57.2	54.1	50.6	54.4	57.2	49.0	53.2
5 largest firms.....	73.7	72.4	73.9	74.3	70.2	72.0	71.7	70.7	72.0	74.9	66.4	72.0
8 largest firms.....	88.0	87.9	88.1	87.9	85.9	87.0	88.3	89.0	89.9	89.1	85.2	87.8
Number of report- ing dealers.....	15	15	15	15	15	15	15	15	15	15	15	-----

The eight largest dealers accounted for more than 80 percent of all transactions in the dealer markets in all 11 years; the largest five for more than 60 percent and the largest three for over 40 percent in all years. The members of the three groups of dealers are not the same in all 11 years, however. This suggests greater mobility in the dealer market than is encountered in most highly concentrated industries where the same firms appear as the largest firms for long periods of time. The following schedule summarizes the number of firms appearing among the leading group over the period.

	Number of dealers appearing among the largest—		
	3 firms	5 firms	8 firms
Total transactions.....	7	8	10
Treasury bills.....	5	7	11
Certificates.....	6	8	9
Notes and bonds:			
Under 1 year.....	6	6	10
1 year to under 5 years.....	6	7	10
5 years and over.....	5	7	11

From the data in table IV-8 it also appears that the degree of concentration of trading was higher for all individual classes of securities than for total trading transactions. The number of dealers appearing among the largest firms in any one of the five maturity ranges exceeded the greatest number of dealers represented in each of the three groups given in the schedule above. Among the three leading firms in any of the security classes during the 11 years, eight separate firms appeared. Nine firms were included among the leading 5 at various times and 13 among the leading 8. Two firms were not represented in the data.

This evidence supports the conclusions reached earlier in the discussion of dealer specialization. The degree of specialization differs between the five classes of securities. It is highest in certificate trading and lowest in Treasury bill trading. Interesting is the relatively large participation by small dealer firms in the trading of long-term bonds. These relatively small dealers specialize in particular instruments to the extent that their trading volume in bonds, for example, often is as large as the volume in bonds generated by some of the large and well-diversified dealers.

The share of trading volume of the three largest firms has decreased in years of falling interest rates and increased in years during which the Federal Reserve System pursued tight monetary policies. This is noticeable also in their share of trading in long-term bonds. But it shows up most clearly in their share of certificate trading. This reflects reliance by the Treasury on certificates in periods of tight money and the large dealers' specialization in certificate trading. The fact that the degree of concentration in long-term bonds lessened during years of falling interest rates is another indication of the heightened trading activity and increased position taking of a larger number of market participants in periods of monetary ease.

The data presented in table IV-8 strongly suggest that six of the firms form the permanent core of the dealer market. Together they are active over the entire maturity range though some of them specialize to some extent. They are also the dealers with the largest sales staff, and with few exceptions, they have the largest number of branch offices throughout the country. However, over the 11-year period their share of the U.S. securities market has decreased.

FINDINGS

Trading volume in the U.S. securities market is larger than the volume of transactions in any of the organized securities exchanges. Transactions on the New York Stock Exchange, for instance, amounted to \$32.7 billion in common and preferred stock and \$1.4 billion in bonds during 1958. This total NYSE trading volume compares with sales of U.S. securities through the dealer market of \$176 billion in 1958. Data on the volume of transactions in corporate and municipal securities in the over-the-counter are not available but it is safe to assume that they would show a much smaller transactions volume in those markets than the 17 dealers have reported for the U.S. securities market.

Secular and cyclical changes in trading volume and rates of turnover of outstanding stocks of U.S. securities are caused mostly by the interaction of debt management practices and the changes in direction of monetary policy pursued by the Federal Reserve System. The varying degree of concentration during tight and easy monetary policy periods also reflects the impact of monetary policy on the volume of transactions in the market. While six firms have accounted for the major part of the trading volume over most of the period, no tendency toward increased concentration is reflected in the data.

CHAPTER V

FINANCING THE GOVERNMENT SECURITIES MARKET

Financing inventories probably poses more problems for the individual dealers than any other single activity. This is particularly true during "tight money" periods when dealers must search the entire country for sources of funds. Through this search process dealers locate excess reserves of banks or idle cash balances of corporations and bring them into use. And partly through this process the effects of Federal Reserve policies are transmitted to banks and to nonbanking organizations throughout the country.

Historically, broker and dealer loans by large banks in New York have been the principal source of financing for the Government securities market. Such loans were generally both callable and collateralized and provided the banks with a secondary reserve. The introduction of Treasury bills in 1929, the increase in Government debt during the thirties, the long-run effects of a movement of reserves out of New York, and later the increased demand for business and consumer loans, all contributed to a relative decline in the supply of funds available for broker and dealer loans. Banks turned to short-term Government securities—principally bills—as the prime source of secondary reserves. Moreover, with the advent of tight money in recent years, the alternative cost—and hence the rate at which banks offered broker and dealer loans—has increased. This has resulted in a further reduction in the supply of funds.

For the Government securities market, financing net position alone requires that on the average \$1 billion must be obtained from all sources. Of this amount, roughly \$250 to \$300 million is the average net position of dealer banks and is financed almost exclusively through internal allocation of funds. Since we have little information about the decision process within banks, we are forced to ignore the bank dealers throughout most of this chapter.

Reputation as a trader is the principal basis for borrowing. Margins are low and leverage ratios are extremely high, higher than the deposit/capital ratios of commercial banks and higher than the leverage ratios of other securities dealers. Since the turnover of dealer portfolios is also greater than turnover in other securities markets, an additional constraint is imposed. Borrowing must be confined principally to call loans and other very short term arrangements which can be cancelled or allowed to expire when a dealer's position declines.

This chapter is concerned with the sources and allocations of dealer financing. It describes part of the interaction between the money and securities market. But before appraising the effectiveness of financial arrangements and the interaction of these two markets, we must first consider some definitional problems and describe some institutional features.

SOURCES AND USES OF FUNDS

A dealer's allocation of funds includes all of his commitments. As we indicated in chapter III some difficulties arise when the dealer accounting statements are aggregated to compute total position. Similar problems arise when a sources-and-uses-of-funds statement is prepared for the 12 nonbank dealers. However, the total sources or total uses of funds exceed the total net position. Several of the difficulties which were described earlier are eliminated in the data of this chapter as a result of aggregation. Hence, it is likely that the error in these observations is proportionally much smaller than the estimated error in total net dealer positions.

Uses of funds

Four principal uses of funds appear on the balance sheets of most dealer firms and have been included in the items which dealers finance. Presented here in the order of their relative size they are: Total Government securities owned; securities sold but not yet delivered; cash deposits for securities borrowed; and agency, municipal, and other bonds. We consider each in turn.

1. Total Government securities owned is generally the largest single item on a dealer's balance sheet. As indicated earlier, the amount included here is not a gross figure since some canceling of gross long and gross short positions takes place before this figure is obtained. For present purposes, total investment accounts are included in this sum.

2. The account "Securities sold but not yet delivered" is similar to an account receivable in that payment is due from a customer. However, the securities remain in the dealer's possession. The amount included in this account varies greatly between dealers.

Dealers whose business is most heavily concentrated in the bill market sell a large proportion of their securities for cash and make deliveries on the day of the sale. Some bills and most other securities are sold on a "regular" basis which requires delivery on the next trading day. Overnight the value of these securities would be included here if the dealer uses the commitment method of reporting.¹ Some sales do not require delivery for several days. For example, when "corporations and others have large blocks of funds becoming available from capital market financing, they may begin to buy Government securities several days before the new money becomes available in order to spread out the market impact of the transactions. Another example is the use of delayed delivery sales of new Treasury issues to institutional investors. In the February 1955 refunding, some of these dealer contracts to sell 3-percent bonds of 1995 ran as long as 4 months."²

3. "Cash deposits for securities borrowed" appears in the asset accounts when the dealer borrows securities to sell short or to complete a transaction. For most years, the aggregate amount of this item is relatively small, but it exceeded \$30 million in several years. Larger dealers who operate more extensively in the long-term market make relatively more use of this transaction than the smaller dealers because it is more difficult to borrow long-term securities.

¹ If he uses the execution method, they are reported in his gross position. When total commitments are summed, part of the bias which we discussed in ch. III disappears.

² "Treasury Federal Reserve Study * * *," op. cit., I, 23.

The transaction which gives rise to this asset account is relatively expensive from the dealer's standpoint and occurs only when securities cannot be borrowed against a pledge of other securities. In pledging cash, the dealer sacrifices the yield on those securities which might have been purchased with the cash. He must pay the interest accruing on the securities sold short and a fee of one-half of 1 percent for the privilege of borrowing securities. These costs undoubtedly account for the infrequent appearance of this account on most of the balance sheets which were examined.

At first glance, it might appear that this item is a part of the cash account and should not be included among a dealer's commitments. But, as noted, the cash which is included in this account is obtained when securities are borrowed and sold short. More commonly, collateral (other securities) is pledged against securities borrowed. Such collateral is considered part of the dealer's position. The alternative to holding cash in this way is not that of having the cash available in the cash account. The cash is obtained in the transaction which gives rise to the dealer's short position. If he had pledged securities in place of cash, the cash obtained would be used to purchase either the securities pledged as collateral or some other issue in his portfolio of equivalent dollar value.³

4. Municipal and other bonds include agency and other Treasury obligations as well as a few corporate and other issues. The detail of this account is described in the chapter on dealer positions and need not be repeated here. However, this item is included among the dealer commitments so that meaningful comparisons may be made between total sources and uses of funds. Exclusion of non-Government obligations could not be made without some estimate of differences in margin requirements on loans and differences in sources of funds for the various types of securities. However, bankers acceptances have been excluded since the amount of loans used to finance them was indicated on the balance sheets.

Sources of funds

Four sources of funds can be identified: securities purchased but not yet received, securities sold but not yet purchased, collateral loans, and repurchase agreements. Again, we will consider each of these in turn.

1. Securities purchased but not yet received are analogous to an account payable in a commercial enterprise. The securities are included in the dealer's position if they have not yet been resold, but the dealer has not yet paid the seller. Variations in the amounts included here reflect changes in the volume of transactions, the proportion of bill to total transactions, and the proportion of cash to regular transactions. Differences in dealer accounting, referred to previously, result in an understatement of the aggregate amount included here, but for the 11 nonbank dealers on a commitment basis the total exceeds \$300 million on the end of the year balance sheets for several years.

³The total of this account has been reduced by "cash liability for securities loaned" which appears when dealers lend securities, principally to other dealers, against cash pledged as collateral. In the data used here, the amount subtracted is generally quite small and the net amount is always positive.

2. "Securities sold but not yet purchased" is the net amount of securities sold short as we indicated in the discussion of net position earlier. The aggregate amount of dealer short sales included on end of the year balance sheets fluctuated between a low of approximately \$50 million in 1949 and a 1958 high of \$364 million for the 12 nonbank dealers. The following observations give some indication of the variation of the short positions over recent years:

12 nonbank dealers

[In millions]

End of year	Reported short positions	Cash
1954.....	\$320	\$25
1955.....	217	23
1956.....	203	21
1957.....	85	22
1958.....	364	30

Fluctuations in the short position of one large dealer dominate these totals. His share of the aggregate short position of all dealers has varied from 33 to 50 percent of the amounts shown above and corresponds to his attitude toward risk and his view of the dealer function.

Short sales finance dealer positions by providing cash which may be used to purchase additional securities. Alternatively, the dealer may sell short and hold cash in anticipation of a fall in securities prices. The data above suggest that there is little or no relation between changes in short positions and changes in cash accounts. Hence, no problem is created by the inclusion of all short positions as sources of funds to finance dealer commitments. And the data again suggest that most dealer short sales may be viewed as arbitrage transactions.

3. Collateral loans were formerly the principal source of funds for financing dealer positions. In the earlier years covered by this study, most of these loans were made by clearinghouse banks in New York, but more recently many banks in other parts of the country have participated in financing the Government securities market. Several foreign banks which have agencies in New York and large nonfinancial corporations also extend loans to the nonbank dealers.

Collateral loans may be made in either Federal funds or clearinghouse funds. Since almost all short-term (under 1 year) transactions in Government securities now are settled in Federal funds, dealers try to arrange financing in this form. Small dealers will often employ the services of a money or Federal funds broker—Garvin, Bantel & Co.—to assist them in arranging loans with banks outside New York. For a reported fee of one-eighth percent the broker arranges the transfer of deposit balances from the reserve account of the lending bank to the reserve account of the bank which clears transactions in the Government securities market—most often the Manufacturers Trust Co.

Loans made in Federal funds have the advantage of being available to the dealer on the same day. Most of these loans are 1 day or overnight loans and are repaid in Federal funds on the following day. Loans of clearinghouse funds do not become available until the following day when clearinghouse balances are settled. They cannot be used to pay for cash purchases unless they are exchanged for Federal

funds in the market. As a result, dealers try to arrange their financing in Federal funds early in the day (usually before 1 p.m.) and are more likely to resort to clearinghouse loans later in the day when shortages must be covered.

New York City banks make dealer loans available, with only a few exceptions, in clearinghouse funds. The rate charged by New York City banks on dealer loans is frequently higher than the cost of financing in other cities; it is also often above the yield on the dealer's portfolio, especially in periods of tight money. Thus, dealers are often under pressure to borrow out of town or from nonbank sources, both to obtain lower rates and to acquire Federal funds to pay for securities against which they are borrowing. If they borrow from the New York City banks, dealers are required to pay the current rate of interest on the loan plus the cost of the Federal funds for 1 day or for 3 days if they borrow on Friday. When money is tight in other parts of the country, dealers rely more heavily on the New York City banks, thus exerting direct pressure on the New York Federal funds market. In such instances, Federal funds are supplied by the clearing bank and by other New York City banks, even though borrowing from the Federal Reserve bank is necessary.⁴

When transactions are cleared through the Manufacturers Trust, credit and debits to a dealer's account are recorded by the bank. The bank makes day loans to cover shortages of Federal funds but makes no charge other than the nominal clearing charge for this service. Over time, it expects shortages and overages to balance out for each dealer.

The dealer maintains his own record of "money position" and attempts to balance his inflows and outflows of funds during the day either by finding sources of financing or by selling for cash. If, after searching the market, his money position is "net short" near the close of the trading day, he can often get some overnight accommodation in Federal funds from the clearing bank. In contrast to day loans, overnights are made at rates equal to those charged by the other New York banks. However, there is no commitment on the part of the clearing bank to act as lender of last resort.

The amount of overnight loans made at the clearing bank apparently vary substantially over time and between dealers. Some small firms indicated that they preferred not to rely on this source of financing because of the difference in rates between New York and other borrowing centers. Some suggested that it was usually less costly to arrange a loan through Garvin, Bantel & Co. A small number of dealers supplied detailed distributions of their financing by individual banks. These data indicate that for certain dealers the clearing bank was the largest single source of funds and had supplied as much as 15 to 20 percent of these dealers' total financing at the end of particular years.

Some of the larger dealers do not clear all of their transactions through the Manufacturers Trust. Instead, some use other banks as clearing agent or arrange for the transfer of some longer term securities through other means. One large firm clears all of its own transactions. To clear transactions, "day loans" or credit lines, available in the morning from New York banks, are used to repay expiring overnight loans. During the course of the day, net purchases of securities for cash are paid for either by drawing against the day loan or by Federal funds purchases. By the end of the day, new financing

⁴ "The Federal Funds Market," *op. cit.*, pp. 47-48.

must be obtained to cover a net short money position and to reimburse the New York banks for advances made during the day.

Some of the larger dealers do not have the difficulties in obtaining financing from the New York banks that many of the smaller dealers report. One large dealer has an arrangement with two banks which take turns supplying financing in alternate weeks. However, the rates charged do not appear to differ from those available to other dealers. As a result, this arrangement supplies a larger proportion of the particular dealer's funds when rates are low and New York banks are more willing to lend to other dealers.⁵

4. Repurchase agreements have become an increasingly important source of financing in recent years. For the dealer, the RP has several advantages over the collateral loan: First, it always provides Federal funds with which the dealer may pay for his purchases of short-term securities. Second, it can often be obtained at a rate lower than the rate at which banks are willing to extend collateral loans. Third, it may have a maturity of several days or several weeks and may be used to reduce the dealer's daily borrowing requirements during a period of relatively "tight money." In recent years, some of the bank dealers have also recognized some of these advantages and have used RP's to finance a part of their dealer position.

The four principal sources of RP's for the dealer market are non-financial corporations, commercial banks outside of New York, the Federal Reserve Bank of New York, and the Federal home loan banks. Other institutions which supply funds to the dealer market by these means include state and local governments, foreign agency banks, New York Clearing House banks, mutual savings banks, and savings and loan associations. The latter group of institutions was considerably less important in the aggregate; their role will not be described in detail.

Nonfinancial corporations acquire temporary deposit balances at commercial banks. Legally, banks may not pay interest on such deposits. RP's offer the corporation an opportunity to invest their funds in maturities tailored to meet their requirements. The funds are invested under a contract which specifies both the price at which the corporation buys securities (or lends funds) and the price at which it resells the securities (or is repaid). The interest rate is fixed in advance and the transaction is collateralized by Government securities which are usually deposited at a bank selected by the lender. Thus, the corporation converts non-interest-yielding assets into interest-yielding assets with a minimal increase in risk.

Commercial banks also enter into repurchase agreements with dealers. They may use an RP instead of a collateral loan for one of several reasons. First, the yield on an RP often exceeds the yield on a Federal funds transaction. Second, small banks may wish to sell Federal funds but may not have the minimum unit in which the market trades, \$1 million. Third, they may prefer the greater security of principal in a secured RP transaction to the outright sale of Federal funds even if the RP rate is temporarily below the Federal funds rate. Or, they may prefer to invest surplus funds at an agreed

⁵ Statements by each of the dealer firms on the financing of their commitments is available in part 6C of Hearings, 1959 * * * op. cit. See especially pp. 1848 ff.

upon rate and allow them to remain in use rather than risk daily changes in the Federal funds rate.

A third major source of RP's is the Federal Reserve Bank of New York. The bank may lend on securities with up to 15 months to maturity for a maximum period of 15 days. For the bank, the RP is a relatively simple device for correcting temporary reserve shortages or imbalances. The resulting increase in bank reserves is reversed when the RP expires. Dealers usually pay the rediscount rate for the privilege of borrowing but the bill rate may be charged at the discretion of the bank.

For the nonbank dealers the Federal Reserve is a next to last source of funds during tight money periods. After they have searched elsewhere, but often before they try to borrow at the relatively high rates charged by the clearinghouse banks, the dealers will inquire at the Federal Reserve about the possibility of making repurchase agreements. The Federal Reserve has available the data on reserve positions of principal banks and seems to base its decision principally on the distribution of available free reserves and the objectives of its policy. RP's are probably easier to arrange with the Federal Reserve when money is being loosened than when it is being tightened. However, temporary accommodation is also given during a tight money period, particularly on Fridays, holiday weekends, and at the end of December when dealer positions are increased in response to yearend balance sheet adjustments and corporate dividend payments.

Although the Federal Reserve Bank of New York may lend for periods up to 15 days, many RP's are made for shorter periods and all are subject to a call provision. Only nonbank dealers have the privilege of borrowing in this way. However, bank dealers may rediscount for Federal funds at Reserve banks using eligible paper or bills as collateral.⁶

The fourth source of RP's is more heterogeneous and includes several different types of lenders. Federal home loan banks and savings banks became more important sources of funds for the dealer market during the tight-money period. Because their operations differ from those of commercial banks, Federal home loan banks are often able to make commitments for longer periods. They thereby provide an alternative source of financing which assists the dealers to hold individual issues for longer periods. These longer term (for example, 30 day) funds are also helpful in financing dealer positions during certain times of the year. Particularly during the months in which quarterly corporation tax payments are due, the supply of funds available for repurchase agreements from nonfinancial corporations falls while the supply of Government securities offered on the dealer market rises. Longer term repurchase agreements seem to have a more important role in financing the resultant temporary large increases in dealer positions.

For the economy as a whole, the RP is a particularly interesting method of financing. Through its use, the maturity of any particular issue of Government securities is modified to provide whatever maturity is required by the lender. This can also be accomplished

⁶ For a more complete discussion of Federal Reserve practices, see Roosa, *op. cit.*, pp. 83-87.

through purchases and sales of relatively low risk instruments, for example Treasury bills. But the risk element in a repurchase agreement based on bills is even smaller than the risk in owning a short term bill which is subject to price fluctuations between purchase and sales dates.

The combination of low risk, tailored maturity, and relatively high rate of return in recent years has undoubtedly resulted in a mobilization of idle cash balances through the dealer market and has increased the velocity of money. Some of these balances would have been transferred to the money market through the bill market and the Federal funds market, but the RP undoubtedly attracts additional funds from those who wish to reduce risk.

When the dealer market has accumulated surplus funds, for example, during the latter part of 1958, reverse repurchase agreements have been made. Reverse RP's are a means by which some dealers lend Federal funds to banks which require additional reserves. Some dealers continue to sell all of their excess Federal funds in the market. Others have taken an active and increasing role in supplying reserves to banks under reserve RP's.

COMPARISON OF DEALER COMMITMENTS AND DEALER NET POSITIONS

Before presenting the data showing the sources and uses of funds in the Government securities market, we wish to compare the size of commitments which dealers must finance with the data on net dealer positions from chapter III. Table V-1 presents the ratio of total commitments/total net position for the 12 nonbank dealers.

It is clear from the table that commitments substantially exceed net positions in all years. Moreover, the data suggest that in years when net positions are relatively large, the ratio is relatively small and vice versa. This implies that the total dealer commitments fluctuate proportionally less than total net positions. In part, this results from the inclusion of gross positions in the commitments data and in part from the inclusion of securities which have been sold but not delivered.

TABLE V-1.—*Ratio of dealer commitments to dealer net positions for 12 nonbank dealers at end of year*

Year	Ratio in percent	Year	Ratio in percent
1948.....	133.3	1954.....	238.0
1949.....	147.2	1955.....	193.6
1950.....	178.1	1956.....	222.3
1951.....	176.5	1957.....	153.9
1952.....	184.3	1958.....	172.7
1953.....	126.9		

“Fails” (securities not delivered on the due date) are relatively more important in the intermediate- and long-term markets. Hence dealers who sell short and those who operate more extensively in the bond market should have higher ratios of commitments to positions. This is confirmed when the ratios are computed for each of the 12 dealers.

Dealers who operated principally in bills and short-term maturities had ratios of commitments to net position as low as 105 or 108 percent. For them, total commitments and net position are approximately equal. Dealers operating more heavily in the intermediate- and long-term markets showed total commitments far in excess of their net positions. For example, one dealer who carries a relatively large position had commitments which on the average were more than three times as large as his net position. The problem of financing commitments clearly differs in magnitude for the two types of dealers described in these examples. And this suggests that constraints which arise on the financial side may be an additional source of limitation on dealer operations in the over-5-year maturity range.

MAGNITUDE AND DISTRIBUTION OF SOURCES AND USES OF DEALERS' FUNDS

The Treasury-Federal Reserve accord of 1951 and the return of a more flexible monetary policy increased total dealer commitments. This is shown in table V-2 (line 3). Since the end of 1952, the 12 nonbank dealers found it necessary to finance commitments of \$1.25 to \$2 billion on the dates for which data were available. If the ratio of total net position of bank dealers to total net position of nonbank dealers may be used as a guide, the total financing required by this market from all sources must have varied from a low in the neighborhood of \$1.6 billion to a high of \$3 billion at the end of recent years.⁷

As the table shows (lines 4 and 5), most of the financing comes from the sources described earlier in this chapter. These sources in the aggregate have rarely supplied less than 95 percent of the total amount required. Year-to-year variations are remarkably small and may in part be accounted for by differences in the accounting practices of individual dealers. Even when allowance is made for margin requirements on collateral loans, the amount of financing which dealers must supply from their own capital remains small.

The ratios of sources to uses for individual dealers show very little dispersion. Only one dealer had an average ratio below 95 percent for the entire period; two had ratios of 96 percent; two were at 97 percent; two were at 98 percent; five had ratios of 99 percent. Variations between individual dealers seem to reflect two things: the extent to which the dealer operates in markets other than the market for Government securities and the relative importance of bills in the dealer's portfolio.

⁷ Treasury-Federal Reserve study, vol. I, pp. 42-43, shows \$2.7 and \$1.8 for Dec. 31, 1957 and 1958, respectively.

TABLE V-2.—Sources and uses of dealer financing (12 nonbank dealers), 1947-58

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
(1) Total collateral (loans+RP's).....	261.1	718.5	767.1	551.2	702.3	1,237.1	1,215.4	984.8	845.6	696.7	1,445.1	847.8
(2) $\frac{\text{Loans+RP's}}{\text{Net position}}$ in percent.....	111.4	124.0	126.0	129.6	133.7	90.2	158.9	117.8	121.6	113.8	96.6	96.6
(3) Total commitments (uses).....	600.8	860.1	911.0	779.0	956.5	1,706.0	1,709.3	1,475.4	1,389.2	1,274.4	1,953.9	1,516.9
(4) Total financing (sources).....	562.7	825.2	873.5	739.1	921.5	1,670.9	1,670.6	1,429.1	1,340.9	1,227.8	1,898.5	1,452.4
(5) $\frac{\text{Sources/uses}}{\text{Total uses}}$ in percent.....	93.6	95.9	95.9	94.9	96.3	97.9	97.7	96.8	96.5	96.3	97.2	95.7
(6) $\frac{\text{Loans+RP's}}{\text{Total uses}}$ in percent.....	43.4	83.5	84.2	70.8	73.4	72.5	71.1	66.7	60.9	54.7	74.0	55.9
(7) $\frac{\text{Loans+RP's}}{\text{Total sources}}$ in percent.....	46.4	87.1	87.8	74.6	76.2	74.0	72.8	68.9	63.1	56.7	76.1	58.4
Number of firms.....	9	11	11	12	12	12	12	12	12	12	12	12

NOTE.—Items (1), (3), and (4) are in millions of dollars; others are in percent.

Loans and RP's

The total amount of loans and repurchase agreements which dealers reported on their year-end financial statements are shown in line (1) of the table. These totals do not agree with the available totals in the Federal Reserve bulletins principally because some firms could not supply calendar year information. Moreover, differences in accounting practices referred to earlier and the failure of several dealers to separate collateral loans from repurchase agreements on their balance sheets prevents any meaningful separation of the aggregate figure. As a result, discussion of changes in the composition of line (1) will be deferred to the next section where individual dealer reports are presented.

When collateral loans and RP's are grouped, they appear to be the largest source of dealer funds (line 7) and to finance the larger part of dealer commitments (line 6). Changes in the ratio of loans and RP's to dealer commitments have generally been in the same direction as the change in total dealer commitments. However, the downswings in the ratio have been proportionally larger than the upswings. As a result, the ratio has fallen in recent years while total commitments have risen relative to the early years of the period. Other sources—"shorts" and purchases not received—have increased relatively.

The ratio of loans plus RP's to total net position (line 2) indicates that in all but 2 years the total amount borrowed by dealers exceeded their net inventories. While this ratio has fluctuated substantially over the 12-year period, there is no indication of the downward trend observable in the data of line (7). One explanation for this difference was suggested above when net positions and total commitments were compared. Total commitments or total sources of funds were found to fluctuate less than total net positions. Another was suggested in an earlier chapter when total holdings of Government securities were compared to non-Governments in dealer positions.

DISTRIBUTION OF SOURCES FOR INDIVIDUAL DEALERS

Table V-3 was constructed from records submitted by 4 of the 12 nonbank dealers. For two dealers, the data presented are based on end of the calendar year reports; for the other two, dates in the second quarter of the year were chosen. It is likely that the calendar year reports overstate the importance of repurchase agreements with the New York Federal Reserve Bank and understate the proportion of financing obtained through repurchase agreements with commercial banks and nonfinancial corporations. The noncalendar year data probably err in the opposite direction; the proportion of RPs with the Federal Reserve may be understated and the proportion of RPs with commercial banks and nonfinancial corporations may be overstated in comparison with the financing practices of the dealer community as a whole.

Nevertheless, the table is suggestive of trends which have taken place during recent years. These trends reflect dealer responses to relative changes in interest rates as well as changes in the available supply of funds offered by lenders. At the interest rates which have prevailed during recent years, the total amount of collateral loans available to the 12 nonbank dealers from all sources has exceeded \$1 billion only rarely. Most often, the total appears to be well below that figure. Repurchase credit, excluding the amounts advanced by the Federal Reserve Bank, is probably about \$1.5 billion at its maximum.

The two firms for which year-end data are presented continue to finance the major part of their commitments with collateral loans if RPs at the Fed are excluded. New York banks remain the largest single source of private funds for both dealers, but in years when money is tight, the relative contribution of New York banks seems to decline. When money rates in New York are high, dealer W seems to rely on banks outside of New York and to a lesser extent on nonfinancial corporations to supply financing. Dealer X depends more heavily on foreign agency banks to lend funds.

TABLE V-3.—Percentage distribution of sources for 4 nonbank dealers

DEALER W

	Collateral loans				Repurchase agreements			
	Total collateral loans	New York banks	Other commercial banks	Other	Total RP's	Other commercial banks and nonfinancial corporations	Federal Reserve Bank of New York	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
December:								
1948.....	100	96	4					
1949.....	100	77	23					
1950.....	100	86	14					
1951.....	55	41	8	6	45			45
1952.....	33	23	5		67		67	
1953.....	82	60	20	2	18		18	
1954.....	68	44	24		32	32		
1955.....	39	25	14		61	21	40	
1956.....	35	20	15		66	6	60	
1957.....	53	16	26	11	48	16	32	
1958.....	74	65	9		26	10	16	

DEALER X

December:								
1948.....	100	94	6					
1949.....	90	83	2	5	10	10		
1950.....	72	66	6		28	3	25	
1951.....	63	45	2	16	37	9	28	
1952.....	29	22		7	71		71	
1953.....	50	34	1	15	50	5	41	4
1954.....	100	81	5	14				
1955.....	47	32	6	9	53	18	35	
1956.....	81	62	8	14	16		16	
1957.....	59	50	6	3	41	20	21	
1958.....	100	100						

DEALER Y

Non-December:								
1948.....	100	100						
1949.....	100	100						
1950.....	100	100						
1951.....	100	100						
1952.....	56	56			44	44		
1953.....	22	22			78	78		
1954.....	1	1			99	96		4
1955.....	16		16		84	74	9	1
1956.....	0				100	88	5	7
1957.....	10	10			90	86	4	
1958.....	8	8			92	89		3

DEALER Z

Non-December:								
1948.....	72	72			28	28		
1949.....	94	94			6	6		
1950.....	100	100						
1951.....	100	100						
1952.....	71	71			29	29		
1953.....	100	100						
1954.....	10	10			90			90
1955.....	13	13			87	65		22
1956.....	13	13			87	85		2
1957.....	36	22	14		64	51		13
1958.....	15	15			85	46		39

Note.—Detail may not add to 100% due to rounding.

Dealers Y and Z have used repurchase agreements as their principal source of funds since the middle fifties. In comparing the distribution of their financing with the similar distribution for dealers W and X, it should be recalled that dealers are required to absorb a large flow of securities at year-end dates. Other things equal, changes in the supply of repurchase agreements should have a seasonal pattern opposite to that of the demand for money. This may in part account for the relatively large proportion of repurchase agreements shown for dealers Y and Z.

Both dealers Y and Z have financed principally through commercial banks outside New York and nonfinancial corporations during recent years. However, dealer Z has borrowed from (or entered into RPs with) "other" sources to a much greater extent than dealer Y. Like the differences in the relative importance of sources for dealers W and X, these arrangements suggest that all dealers do not compete for funds from all lenders. Established contacts with particular lenders and the size of individual dealers seem to influence the number and type of source from which the dealer obtains financing.⁸

Table V-3 suggests that important procedural changes have taken place in the money market in recent years. If dealers rely principally on the New York Clearing House banks to supply funds, the responsibility for finding idle excess reserves or corporate balances is left to the clearinghouse banks. However, when the nonbank dealers undertake to secure a large portion of their financing from banks outside of New York, corporations, and others, the job of bringing excess reserves and idle balances into use, devolves upon the dealers. By offering rates above the rate for Federal funds sales, dealers induce a flow of funds into the New York money market. In the process, changes in monetary policy are spread throughout the country.

Table C-3 of the Treasury-Federal Reserve study provides some evidence of the changing composition of the ratio of loans to repurchase agreements during a period of relatively wide swings in the interest rate. It suggests the extent to which mobilizing reserves has become part of the dealer function. Their data include estimates of the use of bank funds by dealer banks in New York and Chicago. If these funds are excluded from the totals shown there, the amount of collateral loans available to the nonbank dealers must have been extremely small or nonexistent during most of October and November 1957 and 1958. Moreover, it would appear that the nonbank dealers were using reverse repurchase agreements to supply Federal funds to banks in New York and Chicago.

Dealer commitments in the spring of 1958 were probably as large as they had been in any preceding period. If this is true, it would indicate that the maximum amount of loans and RPs available to the market under present financing arrangements and the then prevailing interest rate structure may be in the neighborhood of \$3 to \$3.5 billion. This amount was divided almost equally between the two financing methods. Assuming again that the bank dealers relied principally on collateral loans from their own banks, the data suggest that as much as 80 percent of the total nonbank dealer borrowing must have been completed through the use of RPs. This estimate

⁸ Additional evidence on the distribution of sources of funds can be found in 1959 hearings * * *, op. cit., 6-C, p. 1858.

compares reasonably well with the data for 1958 in table V-3 (non-December).

RATES ON DEALER LOANS

The crux of the dealer financing problem is the rate which the dealer pays. When money is easy, a larger proportion of his commitments can be carried with collateral loans from New York banks. Otherwise, alternative sources must be found or total commitments must be reduced. In searching for funds, dealers must compete with banks and others, but several factors combine to give the nonbank dealers a comparative advantage in obtaining temporarily idle balances.

First, since the alternatives for dealers and banks differ, dealers can pay higher rates. For banks, the purchase price for Federal funds will exceed the rediscount rate only if they have been denied the privilege of additional discounts, have profitable loan or investment opportunities available to them, and have no securities with yields below the Federal funds rate available for sale. What little evidence has been collected on this point suggests that this combination has not occurred in recent years.⁹ For dealers, the relevant comparison is between the yield on the additional securities which the dealers will position and the cost of carrying those securities. For example, if bill yields exceed the Federal funds rate, a dealer will be willing to pay for repurchase agreements a rate higher than the rate on Federal funds. The difference between the yield on bills and the rate paid will contribute to net income. If he anticipates that the price of securities will rise, that spreads between buying and selling prices will widen, or if he wishes to build good will with certain customers, the dealer may position securities when the borrowing cost exceeds the yield. Thus, for banks, the relevant comparison is most often the rediscount rate; for dealers the alternative to paying the higher rate is the loss of profit on the sale of additional securities taken into position.

Second, by paying a higher rate, the dealer will attract funds which might otherwise not be available. The quantity supplied increases as the interest rate rises. By offering higher rates, dealers induce commercial banks outside New York to reduce precautionary balances or to borrow from the Federal Reserve banks in their districts. These loans are made at the rediscount rate (usually equal to the Federal funds rate) and lent in New York at a higher rate. New York banks could attract funds for dealer loans in this way, but would have no competitive advantage. As long as the rate which dealers pay outside of New York is below the rate in New York by the additional cost of locating and transferring funds, the dealers can reduce their borrowing cost by making collateral loans or RP's in other parts of the country.

This analysis may connote an overly defensive attitude. Some dealers view the RP as an alternative to a sale of securities rather than as a borrowing arrangement. For them, differences between the yield on securities and the cost of funds are an indication that they should aggressively exploit the difference by purchasing securities and making repurchase agreements. This is particularly true for longer term repurchase agreements and suggests the reason for the distinction be-

⁹ Cf. "The Federal Funds Market," *op. cit.*, pp. 98-104.

tween RP's of 16 or more days and those of 15 or fewer days to maturity.

Third, the nonbank dealers are a more permanent source of demand for short term funds than banks. Even at the end of 1956 and the beginning of 1957, there were occasions on which the Federal funds rate fell below the rediscount rate. This suggests that temporarily the supply of Federal funds in New York exceeded the demand, and probably reflects erratic shifts in deposit balances. The demand for Federal funds by dealers fluctuates with the size of their commitments and the maturity composition of their transactions. Day to day fluctuations in dealer demand are probably smaller and somewhat more predictable. Hence it is probable that many banks and nonfinancial corporations would prefer a more or less permanent arrangement with a particular dealer even if the average rate over time is the same as the average Federal funds rate.

Fourth, the minimum transactions in Federal funds is usually \$1 million. Dealers are often willing to borrow smaller amounts. In some cases, dealers have financed commitments of \$100 million or more with a few large loans—that is, \$50, or \$25 million—and many loans or RP's of \$100,000 or less. It is unlikely that transactions of that size could be made in the Federal funds market on a regular basis.

From the preceding analysis, it would appear that differences between the bill rate and the Federal funds rate should be eliminated. Since New York banks operate in both markets, we would expect that banks would exploit differences in rates and, in particular, differences between the rate on bills maturing within the week, the Federal funds rate, and the rediscount rate. The available data suggest that this happens less frequently than might be supposed. Legal restrictions on the size of loans which a bank may make to one individual or corporation and differences in relative liquidity between bills and Federal funds have been suggested as explanations of those differences which persist. More detailed discussion of this point and some additional suggestions may be found in the Federal Reserve System monograph referred to earlier.

Furthermore, our analysis suggests that when money is tight the rate on collateral loans and repurchase agreements outside New York should approach or exceed the yield on securities which dealers carry and should exceed the discount rate at the New York Federal Reserve. Evidence for the former is presented in a later chapter when the net interest earnings of dealers are discussed. There we find that in several recent years, interest expense was greater than interest income.¹⁰

¹⁰ Some of the difference probably arises from the fact that the yield on securities for a nondealer is the yield discounted to maturity. For the dealer, the yield to maturity is not an appropriate yardstick since the security will remain in position for a very short time. Dealers compute the yield on a security as the ratio of the coupon to the purchase price—that is, simple interest. Thus there is a difference between the dealers' rate of return and the alternative cost as seen by the supplier of funds.

CHANGES IN THE RATE STRUCTURE OVER TIME

The relationship between the various rates paid by dealers and the rediscount rate at the Federal Reserve Bank of New York is shown in table V-4. These data are based on reports submitted by dealers and are suggestive of the relationships which prevailed at various points in time. But it should be noted that all dealers did not submit rate information and others could supply this information for recent years only.

At times, there is a great deal of spread in the rates on collateral loans prevailing in a particular sector. These spreads appear to be largest when rates are adjusting to new levels. For example, there is a difference of $1\frac{1}{2}$ percent between the lowest and highest rates at New York Clearinghouse banks in December 1954 and December 1957; at other times, the spread is only one-half or three-fourths percent. Such differences probably reflect opposing variations in the reserve positions of particular banks and in the time of day at which the loans are made. Most often, the range of rates reflects the charges made to individual dealers by different banks rather than a difference in the rates paid by small and large dealers.

The rate on collateral loans charged by the New York banks rarely falls below the discount rate at the Federal Reserve. This is particularly true for the December data. For non-December dates the lending rate in New York is below the discount rate on several occasions, but in 1956 and 1957 even the minimum rates reported are above the rediscount rate. Since many of these loans are in clearinghouse funds, the cost of financing commitments in Federal funds is higher than the rate reported by the cost of converting to Federal funds.

The loan rates charged by commercial banks outside of New York are frequently below the rates charged in New York and lower than the rediscount rate. However, as the discussion above suggests, when money is tight or dealers are carrying relatively large positions, rates outside New York rise and equal or exceed New York rates. Examples of this are found in the reports for December 1953, 1957, and 1958 as well as for non-December dates in 1956 and 1957. On the latter date, the ranges reported were the same for commercial banks in and out of New York and were three-fourths percent higher than the rediscount rate in New York.

TABLE V-4.—*Reported rates on loans and RP's in percent*¹

	Collateral loans			Repurchase agreements				Discount rate New York Federal
	New York banks	Other commercial banks	Other	Other commercial banks	Nonfinancial corporations	Federal Reserve	Other	
December:								
1948.....	1 -1½	1 -1¼						1
1949.....	1 -1¼	1 -1½	1 -1¼		0.80-0.90			1½
1950.....	1¼-1¾	1½-2½	1½		1¼	1½		1¾
1951.....	1½-2	1½-2½	1¾-2		1½	1¾	1½-1¾	1¾
1952.....	1¾-2¼	1½-3	1¾-2			1¾		1¾
1953.....	1¾-2¾	1¾-3¼	1¾-2	1¼-1½	1¾		1¾	2
1954.....	1½-3	1¾-2¾	1½-1¾	1¼-1½	1¼-1½	1¾	1¾	1½
1955.....	3 -3¾	2 -3½	2½-3	2 -2¾	2 -2¾	1¾-2½	2 -2¼	2½
1956.....	3 -3¾	2½-4½	3 -3¼	3	3	3	3	3
1957.....	3 -4½	3¼-4¼	3¼-3¾	3 -3¾	2½-3½	3	3	3
1958.....	2¼-3	2½-4	2 -2½	2¼-2½	2¾	2½	2- 2¾	2½
Non-December:								
1948.....	1 -1¼	1 -1¼	1		.80			1
1949.....	1 -1½	1 -1½	1¼-1½			1½	1	1¼
1950.....	1 -1½	1½-2½			1¼-1½			1½
1951.....	1½-2¼	1½-2½	1¾					1¾
1952.....	1¾-2½	1½-3	1¾-2	1½		1¾		1¾
1953.....	2 -2¾	2 -3¼	2					2
1954.....	1 -1¼	1¼-2½	1½	1 -2½	1½-2½	1	¾-1¼	1½
1955.....	1½-2¾	1¾-2½	1½-1¾	1½	1½		1½-1¾	1¾
1956.....	3 -3½	3 -3½	3	2¼	2½	2¾	2½-2¾	2¾
1957.....	3¾-4	3¾-4	3¼	2¾-3	3	3	3½-3¾	3
1958.....	1¼-2½	¾-3½	¾-1¼	½-1½	¾-1		1½	1¾

¹ Based on reports for approximately the same dates as those used in table V-3. Rates shown are for transactions completed by a small number of dealers.

Rates charged on RP's with commercial banks appear to be equal to the rate on RP's with nonfinancial corporations and to be lower than the rates charged by commercial banks for collateral loans. Comparison of the minimum loan and RP rates suggests that one-fourth percent is frequently sufficient to equate these alternatives. The rates on RP's with nonfinancial corporations which are presented in the table are based on a small number of observations in several years. However, they appear to support the conclusions arrived at above: In periods of tight money, the maximum reported rates are above the discount rate at the New York Federal Reserve Bank but below the maximum rates charged for collateral loans at New York banks.

Again, we can compare the data which dealers reported to the Joint Economic Committee with the more comprehensive sample for 1958 published in the Treasury-Federal Reserve study.¹¹ The two sets of data are similar for the spring of 1958. Both show approximately the same range of rates for dealer collateral loans at commercial banks and the dealer RP's at commercial banks. Moreover, the Treasury-Federal Reserve data indicate that the average interest rate paid by Government securities dealers was lower for RP's than for collateral loans.

Furthermore, the data there suggest that the repurchase agreement is a more important source of financing to Government dealers than to other brokers and dealers or to New York Stock Exchange firms. This would imply that Government securities dealers are more active in bringing reserves from other parts of the country into New York. In part, of course, this is simply a reflection of the kind of securities on which repurchase agreements are most often made. And this is

¹¹ See especially tables A-12 and A-13 in vol. II, pp. 120-121.

also reflected in the relatively low average rates which Government securities dealers pay for RP's.

EFFECT OF THE RATE STRUCTURE ON SOURCES OF FINANCING

When the distribution of financing sources for the four dealers (table V-3) is compared to the rates which dealers reported (table V-4), the data supports the conclusion that relative changes in interest rates charged by the various lenders alter the composition of dealer sources of funds. But, even when there are substantial rate differences between RP's and collateral loans, e.g., in 1956 and 1957, some collateral loans have been used as sources of funds. In part, this reflects the upper limit on the amount of RP's available to the dealers from nonfinancial corporations. Given the existing rate structure, there is no opportunity for corporations to borrow and enter into repurchase agreements. However, it suggests that banks outside of New York may not take full advantage of their opportunities to borrow at their district Federal Reserve banks.

Nevertheless, the two tables do suggest that dealer operations are an important element in spreading the effects of changing interest rates throughout the economy. Variations in the proportion of commitments financed with collateral loans and the proportion financed with RP's tend to follow differences in rates. Similarly, the proportion financed in New York tends to rise when rates are low and fall when rates are high. However, several exceptions can be found; e.g., dealer Y in 1954 presumably paid as much as $2\frac{5}{8}$ percent for RP's when collateral loans were available in New York at $1\frac{1}{4}$ percent. Such exceptions probably arise because of incomplete reporting of rates charged and an absence of information on rates which would be charged for additional transactions. At times slightly lower rates in New York may reflect the potential cost of converting clearinghouse funds into Federal funds.

Finally, it should be noted that the existing system of borrowing operates to the advantage of the bank dealers during periods when money is tight. At other times, nonbank dealers can obtain funds from the clearinghouse banks and others at rates which are in the neighborhood of the discount rate and in quantities generally sufficient to finance most of their commitments. During tight money periods, however, the rates which dealers pay and their sources of financing seem to indicate that nonbank dealers must offer substantially more than the rediscount rate or reduce their positions.¹² Access to repurchase agreements at the Federal Reserve, a source of funds which is closed to the bank dealers is an offsetting advantage. But, such funds are uncertain and available only at the discretion of the Reserve bank.

Bank dealers have the option of borrowing at their Federal Reserve banks. As long as this privilege is restricted to banks, bank dealers have a rate advantage. However, their dealer position is but one part of their operation. If the supply of rediscounts is not unlimited, the advantage of borrowing at the Federal Reserve need not be translated into an advantage in the Government securities business.

¹² Testimony of several nonbank dealers to this effect may be found in Hearings * * * pt. 6C, pp. 1848 ff. However, other nonbank dealers did not agree.

Put otherwise, the dealer department of a bank will be able to finance its commitments in Government securities at lower rates only if the rediscount window is open and the rate of return in the dealer department is expected to exceed the return in other departments. Indications that the rates which banks pay at the Federal Reserve are lower than rates which nonbank dealers pay to their sources of funds is not sufficient to indicate that bank dealers have an advantage over their nonbank competitors.

Some evidence on the share of total net position held by bank dealers is available. It shows that during tight money periods, the proportion of the aggregate inventory held by bank dealers was larger than during periods of easy money. While this conclusion is based on a relatively small number of observations, it suggests that the difference in rates may be converted into an advantage in positioning securities. If this is so, it implies that the expected rate of return from additional dealer operations is higher than the perceived rate on other alternatives available to the bank but less than the cost of additional collateral loans to nonbank dealers. At such times, if net interest income is negative for nonbanks and positive (or zero) for banks, banks would be more willing to undertake additional commitments. However, the evidence is also consistent with the hypothesis that there are differences between dealers in the expected rate of return to be derived from additional commitments.

LEVERAGE AND MARGIN REQUIREMENTS

Earlier in this chapter, we presented the ratio of sources to uses of funds. From those data, it is clear that dealer commitments exceed dealer financing by a relatively small amount. It is, therefore, not surprising to find that the dealers operate with relatively high ratios of borrowed to own funds.

The reasons for high leverage have also been suggested by the earlier discussion. Almost all loans or other financing arrangements are collateralized or guaranteed by a deposit of Government securities. Risk of loss of principal is slight or nonexistent in most periods. Moreover, the gross profit per dollar of invested capital is relatively low in most years as will be seen in chapter VII.

Looked at positively, high leverage ratios testify to the efficiency of the market as measured by unit costs. They permit dealers to make transactions at very low unit costs. It is clear that any advantage which would stem from a reduction in leverage or an increase in margins would be accompanied by a rise in average unit costs. Lower leverage ratios arrived at through increased capital in the dealer market also might result in a reduction in the number of dealers.

TABLE V-5.—*Annual leverage ratios; nonbank dealers*

Year	Total loans plus RP's divided by total long-term financing	Total sources of funds divided by total long-term financing	Total sources of funds divided by total net worth
	(1)	(2)	(3)
1948.....	13.17	15.12	18.56
1949.....	13.26	15.10	16.59
1950.....	10.38	13.92	15.41
1951.....	13.54	17.77	19.70
1952.....	22.99	31.06	34.96
1953.....	20.54	28.23	32.56
1954.....	15.34	22.26	25.12
1955.....	12.21	19.36	22.79
1956.....	11.36	20.01	24.40
1957.....	21.47	28.20	33.77
1958.....	11.49	19.68	23.44

Three different leverage ratios are shown in table V-5. The differences in numerators were explained earlier in the chapter. The denominators are both measures of dealer capital. In columns (1) and (2), capital is measured by the amount of long-term dealer funds invested including long-term borrowing and senior securities; the denominator of column (3) excludes long-term borrowing and some other items. A complete discussion of these measures is found in chapter VI.

Both columns (2) and (3) indicate that dealer capital has varied between 3 and 7 percent of total dealer financing. Changes in the ratio roughly conform to changes in dealer commitments and suggest that a capital requirement of approximately 3 percent or a leverage ratio of 35 to 1 are close to the respective minimum and maximum for dealers as a group. Such ratios are undoubtedly higher than those of other classes of security dealers. They greatly exceed the deposit-capital ratios of commercial banks.

Several firms have ratios considerably higher than the average. Five dealers have leverage ratios for the 11-year period which equal or exceed 35 to 1 and three dealers have leverage ratios above 50 to 1 if the ratio in column (3) is used as a measure.¹³ For three dealers, the average leverage ratio has been much lower and has averaged less than 20 to 1.

Differences between dealers reflect a number of differences in operation. Dealers who specialize in bills and tend to finance extensively by means of repurchase agreements are more likely to have high lev-

¹³ If col. (2) is used as the measure of leverage, one of the three dealers is eliminated.

verage ratios since the risk in a given dollar amount of commitments is lower and the margin required on repurchase agreements is smaller. Two firms which are members of the New York Stock Exchange must allocate capital against their commitments as specified in the rules of the exchange. Since these "capital charges" are slightly higher than the margin requirements generally charged by banks, the average leverage ratio for the two firms is intermediate if dealers are ranked from high to low. Moreover, New York Stock Exchange member firms and other dealers who have relatively large positions in corporate, municipal, or agency securities tend to have lower leverage ratios because of the higher margins required when these securities are used as collateral. Such securities are less frequently used in making repurchase agreements.

Despite the relatively high leverage ratios, there have been no reports of dealers failing to repay their obligations. As indicated earlier, most collateral loans are for very short periods; many are overnight loans. The combination of low risk collateral, short duration, and the margins reported in table V-6 is probably sufficient to protect lenders.

TABLE V-6.—*Margin requirements on collateral loans*

Maturity:	<i>Margin</i>
Bills.....	¼ of 1 percent.
Certificates.....	½ of 1 percent.
Notes and bonds under 5 years.....	1 point. ¹
Bonds 5 to 10 years.....	2 points.
Bonds over 10 years.....	3 points.
Agencies.....	5 points.

¹ 1 point equals 1 percent of the value of the securities.

The margins reported here are those in effect during the summer of 1960.¹⁴ Small dealers report that they meet the same margin requirements as large dealers, and as indicated earlier, appear to have access to credit at the same rates. In fact, since many of them concentrate most heavily in the short-term market, their leverage is often higher than that of the larger dealers. However, the Treasury-Federal Reserve¹⁵ study indicates that margin requirements are variable on both collateral loans and on repurchase agreements. Some of this variation results from aggregating all maturities together but some must result from differences in regulations at individual banks.

Additional evidence on other dealer margin requirements can be obtained from the balance sheets of the dealer firms. The margin requirement for borrowed securities, the ratio of collateral deposited for securities borrowed to the value of securities borrowed, averages about 2 or 2½ percent. When cash is pledged in place of securities, the margin appears to be as high as 3 to 4 percent, but this may reflect differences in maturity as well as differences in lender attitudes.

Margin requirements on repurchase agreements vary with the source of the RP. Many banks now require that the value of the securities deposited against the RP exceed the value of the contract. Others, particularly nonfinancial corporations, did not require any margin

¹⁴ There is no indication that they change over time, but slightly different rates are reported in the testimony of Mr. Girard L. Spencer. Cf. hearings, op. cit., pt. 6B, pp. 1558-1559. Capital charges for New York Stock exchange firms are also reported by Mr. Spencer.

¹⁵ Footnote II, p. 62, and tables A-9, A-10, and B-6.

in the past, and some do not require any now. However, several dealers report that they encourage their corporate lenders to ask for some additional collateral and often deposit more than is requested.

The ratio of securities pledged for RP's to the value of the RP's was computed from the balance sheets submitted by several dealers. Collateral deposits in excess of 1 percent were rarely observed. In several years, individual dealers carried \$20 or \$30 million in securities on a margin of one-tenth or two-tenths of 1 percent. Margins below one-half of 1 percent were far more common than those above. And the Treasury-Federal Reserve study shows that it is not uncommon to have zero margin on repurchase agreements even when the securities under repurchase have more than 10 years to maturity. That study shows no margin requirement for three-fourths of the RP's made against \$67 million in bonds due in 5 to 10 years and five-eighths of the \$115 million in RP's against bonds with more than 10 years to maturity. Where margins were reported for the former, they averaged only 0.15 percent; for the latter, they were slightly higher but less than one-half of 1 percent.

Some dealers have suggested that repurchase agreements are sales and purchases rather than loans. For this reason, they might regard margin requirements on such transactions as an anomaly. There is some merit to this point of view. However, it is clear that they differ in two important respects from regular purchases and sales: (1) the completion of the transaction depends upon a particular dealer rather than on the marketability of the instrument and (2) the rate at which the loan is made assumes the absence of all but minimal risk. The rapid falls in Government security prices in May 1953 and June 1958 suggest that the risks may be underestimated at certain times.

The margin requirements which dealers now pay for collateral loans could be extended to repurchase agreements. Margins would eliminate potential risks to lenders—particularly to those small banks and nonfinancial corporations which are unfamiliar with the risk involved in RP's when security prices fall. This is particularly important for RP's which are made against securities which have more than 1 year to maturity. Administration of the margin requirements would not be difficult now that all dealers report their repurchase agreements to the Federal Reserve Bank of New York on a daily basis.¹⁶

CASH BALANCES

The cash assets of dealers vary much less from year to year than other asset items despite their very high velocity. As we have seen, net position turnover for the 17 dealers has been as high as 1½ times per trading day and has averaged at least one per day. Given the small cash balances and the high leverage ratios which are typical of dealer operations, the cash balance turnover is undoubtedly much higher. Estimates by the New York Clearing House suggest that average cash balances of \$20 million turn over about 45 times per day or 11,000 times per year on the average.¹⁷ This estimate is consistent

¹⁶ The Federal Reserve Bank of New York requires a margin on dealer repurchase agreements. Cf. hearings, op. cit., pt. 6B, p. 1564.

¹⁷ Hearings, op. cit., pt. 6B, p. 1511.

with our previous estimate of an average net position of \$950 million and an average position turnover of one per trading day.

The New York Clearing House estimate of mean dealer cash balances is slightly lower than the year-end cash shown on dealer balance sheets. The difference is approximately \$2 to \$3 million on the average for the years 1948-58 inclusive and is larger in recent years than in earlier years. This probably reflects a geographical redistribution of dealer deposits which has accompanied the shift in sources of funds.

In several interviews dealers were asked if they maintained minimum cash balances. Most of them indicated that they kept balances at those banks from which they normally borrowed but felt no formal obligation required them to do so. One dealer indicated that at the request of particular banks he maintained minimum balances which varied with the activity of his account. He also stated that in periods of stress, e.g., during a Treasury refunding, he would be able to reduce the amount of this balance without any comment from the bank.

FINDINGS

The financial arrangements which permit the dealer market to operate are an important part of the mechanism by which reserve positions of banks are adjusted and idle balances are mobilized. In the process of increasing their profits (or reducing their costs) dealers must search for idle balances which can be obtained at rates sufficiently low to permit them to carry their commitments. Through these efforts interest rate changes and monetary policies are spread throughout the country.

The growth of repurchase agreements during the postwar years has played an important role in making the money market more efficient. Through the RP, the existence of higher interest rates is brought to the attention of small banks and nonfinancial corporations. Undoubtedly this has led to a more rapid adjustment by the private economy to the effects of changes in the supply of money and credit, and to a reduction of the timelag between the introduction of a policy and the effectiveness of the policy.

The evidence on the financing of the market is as yet too scanty to come to more than a few preliminary conclusions on the effectiveness of possible changes. A more complete report, prepared by the clearinghouse banks has been prepared but has not been released to the public. This report, or a similar study, should be made available to permit a broader understanding by the interested public of the ways in which monetary policy alters the distribution of the money supply.

High on the priority list should be a study of the effects of higher margin requirements on loans to nondealers. The available information seems to indicate that nondealers deposit slightly higher margins than dealers on the average, but at times the cash or collateral deposited has been insufficient from the view of lenders. Margin calls have led to forced sales and rapid decreases in the price of Government securities. Both the magnitude of present margin requirements and the expected effects of higher margins on the pricing of Government securities should be investigated before a conclusion can be reached on this subject.

In addition, more information is needed about the availability of securities which can be borrowed. This issue arises principally when

dealers want to sell long-term issues short. Trusts, pension funds, and governments hold a large share of many of these issues. Their rules often prevent them from lending securities. Mutual savings banks, which formerly were a principal lender of securities, have decreased their portfolios of governments in recent years and no longer have an available supply of many issues. The absence of an ability to borrow reduces the opportunities for dealers to arbitrage or to supply securities to the market.¹⁸ An improvement in arrangements for borrowing securities would improve the marketability of long-term issues at least marginally and would strengthen this important segment of the bond market.

Further investigation of the available supply of funds for financing dealer portfolios of long-term and intermediate term bonds would be desirable. In this study, we have not ascertained the extent to which funds are available for carrying longer term securities in amounts and at rates similar to those quoted above. Many of the sources of dealer financing are short-term and hence geared to securities which turn over rapidly. Longer term securities often must be held for longer periods of time before sales can be arranged. Conversations with several dealers indicated that much of the time it is difficult to finance longer term issues at rates below or equal to the yield of the securities. If this is so, it is an additional reason for the weakness of the long-term bond market and hence a matter of public interest.

Two other conclusions seem warranted :

First, margin requirements on repurchase agreements by dealers could be increased. On this point, the evidence that dealers deposit substantially lower margins for RPs than for collateral loans is reasonably good. There does not appear to be any overriding consideration which makes lower margins a necessary accompaniment of financing through RPs. The difference in rates at most times is sufficiently large to permit higher margins without substantially altering the composition of dealer financing. The Federal Reserve Bank of New York could assure that such margins are maintained by requiring that the appropriate information be submitted as part of the dealers daily reports. To the extent that lower margins are available on collateral loans made outside of New York, this difference should be eliminated also. We believe that this requirement would reduce the probability of margin calls, forced selling, and market disorganization.

Second, loan rates at commercial banks seem to be far less flexible downward than the rates on many of the securities which banks buy. As a result, nonbank dealers are at times less willing to take securities into position at existing interest rates. Particularly, in the long- and medium-term market where transactions are relatively small, this has a temporarily disturbing influence on the rate structure. Dealers must take the cost of carrying securities into consideration when prices are quoted. A more flexible interest rate policy at commercial banks and particularly at clearinghouse banks would assist in the adjustment of the economy which takes place through the dealer market.

¹⁸ This is one of the reasons for the increase in the "failed to deliver" account in recent years.

CHAPTER VI

LEGAL ORGANIZATION AND CAPITAL BASE

LEGAL ORGANIZATION, CAPITAL BASE, AND CREDIT WORTHINESS

Dealers in Government securities can fulfill their functions only if they carry a position in the securities for which they are making markets. Trading in and out of positions becomes profitable over the long run only because of the dealers' ability to finance their securities inventory with borrowed funds. If they were forced to finance commitments with their own capital funds, that is, to forego any leverage effects, either trading would become so unprofitable that it would probably disappear or spreads between buying and selling prices would become impossibly large. The dealers' ability to borrow for the purpose of carrying Government securities in their positions is thus a crucial condition for the functioning of this important market and for profitable dealer operations. Dealers' ability to borrow funds at rates which will allow them to operate profitably at prevailing spreads is determined by two sets of factors, (1) the liquidity of the securities which can be used as collateral, and (2) the credit worthiness of the individual dealer firms.

Government securities as collateral offer the highest liquidity of any security market collateral except cash, with liquidity increasing as the time to maturity of the securities decreases. The credit worthiness of the dealer firm is determined by the lending institutions on the basis of a number of considerations. Among the considerations is the requirement that dealers must report their financial condition to the Federal Reserve Bank of New York. The submission of these financial statements is one of the conditions imposed on a dealer firm if it wants to do business with the open market desk. This can be considered as an important screening process which other lenders may take into account when they evaluate the credit worthiness of the dealers.

Lenders generally consider the legal form of organization and the capital cushion represented by a borrower's equity among the important determinants of a debtor's credit worthiness. Neither factor seems to carry much weight in appraising the credit standing of dealers in U.S. Government securities. In relation to the large dollar amounts involved in day-to-day financing, dealer capital is quite small, while the protection offered to the lender by collateral arrangements is substantial. However, dealers' personal integrity and past experience—measured by their past performance record—seem to be of great importance to lenders.

Little or no difference is noticeable in the ease with which both dealer-partnerships and dealer-corporations maintain their credit standing. This appears to hold true despite the fact that a dealer

partnership offers not only the firms' capital but also the assets of the general partners as added security cushion in case of financial failure. The legal form of a dealer firm becomes important for this study, however, in comparisons of the capital base of dealer-partnerships and dealer-corporations, and in the treatment of their income for income tax purposes. [See ch. VII.]

LEGAL FORM OF ORGANIZATION OF THE 12 NONBANK DEALERS

The 5 bank dealers among the 17 firms are departments or divisions of their banks which, of course, are incorporated. Except for an attempt to estimate the share of capital which the bank dealers have committed to their Government bond departments, the discussion in this chapter will be concerned with the 12 nonbank dealers. Comparisons between dealers on the basis of legal form is made difficult by differences between individual firms. As noted earlier, some dealers confine their operations to Government securities while others are broadly based securities firms. Moreover, at the end of 1958, 4 of the 12 nonbank dealers were organized as partnerships while 8 were incorporated. One of the larger firms had changed during the 12-year period, 1947-58, from a corporation to a partnership.

While one-third of the nonbank dealers in U.S. securities chose the partnership form of organization, this is not typical of securities dealers in general. Better than 90 percent of the member firms of the New York Stock Exchange were partnerships at the end of 1958; only 53 out of a total of 657 NYSE member firms were incorporated at that time. It appears that the Government dealers have a greater preference for the corporate form than member firms of the NYSE, but this inference is based on a comparison of the population of 12 dealers with that of all NYSE member firms.

Several factors suggest that Government security dealers may differ from other security dealers in their attitude toward incorporation. The corporate form was available to Government security dealers at an earlier date. Until recently, member firms of the NYSE could not be incorporated. Thus a trend toward incorporation among this group may be now underway. Since 10 of the 12 Government dealers are not members of the NYSE they were not restrained from incorporating.

Three other possible explanations for a dealer preference of the corporate form which require more detailed analysis are (1) size and organization of dealer firms, (2) tax considerations, and (3) trading risk and limited liability.

SIZE AND ORGANIZATION

The size of dealer firms does not appear to influence their choice of legal form. Both very large and very small firms are found in both groups.¹ For comparison, the distribution of corporations, partnerships, and sole proprietorships by size classes for the 400 largest investment banking firms in the United States is given in table VI-1.

¹ "Finance," Mar. 15, 1960.

TABLE VI-1.—*Legal form of 400 leading investment bankers by size classes*

Size of firm capital in thousands	Number of firms in class	Corporations		Partnerships and sole proprietorships	
		Number	Percent	Number	Percent
Over \$5,000.....	65	12	18.5	53	81.5
\$1,001 to \$5,000.....	154	50	32.5	104	67.5
\$501 to \$1,000.....	61	29	47.5	32	52.5
\$251 to \$500.....	68	44	64.7	24	35.3
\$100 to \$250.....	52	34	65.3	18	34.7
All firms.....	400	169	42.2	231	57.8

Source: *Finance*, Mar. 15, 1960.

These data show that the probability that an investment bank will incorporate decreases with size throughout the range. This is not true when a similar array is constructed for the 12 nonbank dealers. Of the two dealers with less than \$500,000 capital at the end of 1958, one was incorporated and one was a partnership. Five of the dealers had more than \$5 million in capital funds. Two of these were partnerships. Of the dealer firms with capital funds ranging from \$500,000 to \$5 million, only one was a partnership. Thus, there is no evidence from the small population of Government security dealers that size of the dealer firm determines the choice of legal form.

Most of the incorporated dealer firms seemed to be managed on the same basis and along similar organizational lines as the dealer partnerships. Senior stockholders or officers assume the role of senior partners with only rare exceptions. The "corporate manager" with no stake of his own in the business was not very much in evidence. A combination of experience and reputation as a trader and capital investment seem to be the prerequisites for leading positions in the nonbank dealer firm.

TAX CONSIDERATIONS

The corporate form of organization can have important tax advantages to owners of the business if they are or expect to be in very high personal income tax brackets. A security dealer firm, organized as a partnership, does not have the option under the 1954 Internal Revenue Code to elect to be taxed as a corporation. Even if this option were available to the dealer partnerships, it is unlikely that they could reap the most important tax advantage of the corporation which adhere from the retention of earnings after payment of the 52 percent (maximum) corporate income tax. The reinvestment of these earnings in the business and the resulting appreciation in value of the business can be realized by the owners through sale of their share of the business at a later date. Any gain realized is then taxable only at the capital gains tax rate which cannot exceed 25 percent of the gain.²

Two conditions have to be met to make this tax aspect of the corporation worthwhile to the owners of a business: they must be in a 64-

² A more complete discussion of the effects of capital gains taxation is found in chapter VII.

percent or higher personal income tax bracket and their share in the business must be easily marketable. While there is little or no evidence about individual partners' incomes, general marketability does not seem to exist. Although there have been some exceptions, the usual way of transferring interests in the dealer firms consists of bringing in promising younger men with experience and increasing their stake in the business gradually. Interest in the ownership is rarely sold to outsiders or nonemployees.

This argument appears valid even though retained earnings have been by far the most important source of capital for the eight dealer corporations during the period 1948-58. Their aggregate net worth including preferred stock and certain reserve accounts increased by \$8.7 million; their retained earnings or earned surplus accounts increased by \$14.7 million. The difference between increases in retained earnings and additions to total net worth was caused by the retirement of some preferred issues and the reduction in capital accounts designed mostly to make up for losses.

Total long-term investment of the eight firms increased even less than their net worth; namely, by \$7.3 million. Since long-term investment figures include the firm's indebtedness, it is clear that the incorporated dealers as a group were able to apply their retained earnings toward retirement of some of their debt. This occurrence, however, was not peculiar to the corporate dealers. Similar developments took place in the partnership firms and are reflected in increases of net worth and, more specifically, "partners' free balances" and "partners' individual balances."

TRADING RISK AND LIMITED LIABILITY

As has been pointed out repeatedly (see chs. III and V), the major trading risk derives from the holding and financing of large positions. Here again the U.S. Government securities dealers stand out among other security dealers in both the over-the-counter and organized exchange markets. In "The Over-the-Counter Securities Market,"³ Winn states that the relationship between the long security positions and "net capital" of 3,081 registered broker-dealers during the September-November period of 1949 showed a definite variation with the size of firm. He found from questionnaire responses that the ratio of average positions to "net capital" was 203 percent for the largest size class (50 firms with "net capital" of over \$3 million), 101.7 percent for the medium size class (175 firms with "net capital" of over \$500,000), and 97.1 percent for the smaller size class (2,856 firms with "net capital" of less than \$500,000).

The use of the "net capital" concept results in an upward bias in the relationship between dealer inventory and dealer net worth as noted by Winn. The comparison of 1949 position with 1947 capital further overstates the relationship. Yet these figures serve as a basis for comparison with similar data for the 12 nonbank dealers in Government securities covered in this study.

³I. Friend, G. W. Hoffman, M. J. Winn, "The Over-the-Counter Securities Market," McGraw-Hill Book Co., Inc., New York, 1958, pp. 68-69 and 297 ff.

TABLE VI-2—*Ratios of positions to net worth, all nonbank dealers, 1948-58*

	<i>Times</i>		<i>Times</i>
1948-----	14. 51	1954-----	10. 89
1949-----	11. 68	1955-----	12. 20
1950-----	9. 12	1956-----	11. 39
1951-----	11. 59	1957-----	22. 59
1952-----	19. 36	1958-----	14. 17
1953-----	26. 25		

Moreover, the Winn data include his estimates of the position and "net capital" of the Government securities dealers. If these were eliminated, the ratios shown by Winn would be reduced and the difference in the ratio of capital base to positions would exceed the differences shown here.

Even though the inventories of dealers and brokers in corporate securities are subject to much wider price fluctuations than those of dealers in U.S. securities, the data bear out the statement that the 12 dealers in this study are faced with substantial risks deriving from the relationship between their capital and their total commitments. The fact that profitable operations in the Government securities market require a relatively high ratio of position/capital suggests that the predominance of the corporate form may be more closely related to risk rather than to other considerations often pointed to: tax advantages, organizations, size of firm, or credit worthiness.

DEALERS' CAPITAL BASE

In table VI-3 the net worth of the 12 nonbank dealers is summarized for the years 1948-58. During the 11 years, aggregate net worth of nonbank dealers (col. 1) declined during 3 years and increased during 7 years. Declines and increases are, of course, caused first of all by fluctuations in earnings and changes in retention policy.

Net worth as defined here includes all surplus accounts, all common and preferred stock, and certain reserve items which displayed stability over time and appeared to be segregated surplus reserves rather than liability reserves. For the partnership dealers, classification at times was more difficult, especially with regard to "Partners' free balances" and "Individual partners' free balance." For the compilation of net worth presented here, these special accounts have been omitted. It appears, however, that the funds represented by these accounts are committed to the firms for long periods of time. Since the balance sheets on which this study is based are mostly year-end statements, they may contain accrual accounts on which the partners may draw during the course of the year. Considering their size, it seems unlikely that they would be completely eliminated during the normal course of events. For the purpose of calculating rates of return on capital, these items were added back to net worth together with a few relatively small long-term debt items. The resulting amounts of total long-term financing (capital base) are also presented in column (2) of table VI-3.

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TABLE VI-3—*Nonbank dealer long-term financing and net worth, 1948-58*

[In thousands of dollars]

Year	Net worth	Long-term financing other than net worth	Long-term financing plus net worth	(2) as percent of (1)
	(1)	(2)	(3)	(4)
1948.....	44,465	10,101	54,566	22.7
1949.....	52,886	5,213	58,099	9.8
1950.....	47,955	5,135	53,090	10.7
1951.....	46,777	5,088	51,865	10.9
1952.....	47,797	6,005	53,802	12.6
1953.....	51,308	7,875	59,183	15.3
1954.....	56,901	7,282	64,183	12.8
1955.....	58,832	10,428	69,260	17.7
1956.....	50,317	11,043	1,360	21.9
1957.....	56,223	11,089	7,312	19.7
1958.....	61,958	11,819	3,777	19.1

Long-term debt has been relatively unimportant in recent years. It appears on the balance sheets of only some of the eight dealer corporations. It shows high volatility from one year to the next, and the impression is gained that much of this debt may consist of loans to the firms by insiders or persons closely related to the firm. Table VI-4 summarizes the aggregate long-term debt of the eight corporate nonbank dealers during the 11 years.

TABLE VI-4.—*Long-term debt, for all dealer corporations, 1948-58*

[In thousands of dollars]

Year	Long-term debt	Total long-term financing	Col. 1 as percent of col. 2
	(1)	(2)	(3)
1948.....	3,926	48,265	8.13
1949.....	1,488	43,447	3.42
1950.....	1,705	38,844	4.39
1951.....	1,697	38,476	4.41
1952.....	1,708	38,647	4.42
1953.....	1,710	41,911	4.08
1954.....	1,685	42,833	3.93
1955.....	928	44,518	2.08
1956.....	1,725	40,256	4.28
1957.....	1,528	44,464	3.43
1958.....	177	48,437	.36

Since long-term debt constitutes such a small part of dealers' total long-term financing, in most cases, it was not segregated from this amount for the purpose of calculating rates of return. The data presented in this section allow for any desired reconciliation on the part of the reader.

The 12 nonbank dealers increased their net worth by \$17.5 million from 1948 to 1958 with only 3 years of decreases. This aggregate performance was achieved despite substantial temporary and some permanent reductions of net worth of individual dealer firms during the period. The permanent reductions of net worth for instance total \$2.5 million for the 11 years. This reflects losses realized by this group of firms and some withdrawals of capital by a few dealers.

Total long-term financing of the 12 firms during this period increased by \$19.2 million. Here again a group of firms experienced a reduction of total long-term financing of \$1.9 million resulting from

losses and from retirement of outstanding issues. Accumulation of partners' balances and additional use of outside funds supplemented the capital provided through increases in the dealers' net worth.

At the end of 1958, the operations of the 12 dealers were conducted on a total long-term capital base of \$73.8 million. However, several of the nonbank dealers had substantial operations in corporate and municipal securities during the 11 years. Ideally one would like to allocate part of these dealers' capital base to their other activities. This task is difficult in the absence of more specific information about their activities in other markets. For the purposes of this discussion no such allocation will be attempted. But, despite the lower ratio of positions to dealer capital in other securities markets, the relatively small positions which Government dealers take in non-Government securities (see ch. III) suggest that only a small proportion of aggregate dealer capital is allocated to activities outside the Government market.

Theoretically at least, one could add to the nonbank dealers' capital the amount of the dealer banks' capital which would be necessary to support their operations in U.S. Government securities if they were nonbank dealers. For this purpose, the average rate of capital turnover (ratio of dealer transactions volume to long-term financing) for the 12 nonbank dealers was compared with the transactions volume of the bank dealers. This method leads to an estimate of bank dealer funds committed to support trading operations of the bank Government bond departments of between \$24 and \$30 million or a total commitment of approximately \$100 million by all dealers in the Government securities market.

CAPITAL BASE AND CASH ACCOUNTS

Dealer cash is a very small part of dealer assets averaging no more than 2.5 percent for the entire period. However, over the 11 years the 12 nonbank dealers have held a rather large and constant portion of their total capital funds in the form of cash balances. Table VI-5 presents the relationship between total long-term financing and the cash balances on hand or held with banks for the years from 1948 to 1958. For the entire period cash balances averaged 38.1 percent of total long-term financing, ranging between a high of 41 percent in 1953 and a low of 33.5 percent in 1957. The decrease of the cash balance ratio during the years 1954 to 1957, reflects tight monetary policy and the increase in the cost of funds as well as a substantial addition to earned surplus in 1957.

TABLE VI-5.—*Cash positions and total long-term financing, 12 nonbank dealers, 1948-58*

Year	Cash positions (in thousands of dollars)	Cash positions as percent of total long-term financing	Year	Cash positions (in thousands of dollars)	Cash positions as percent of total long-term financing
1948.....	20,408	37.4	1954.....	24,817	38.7
1949.....	22,891	39.4	1955.....	23,278	33.6
1950.....	20,701	39.0	1956.....	21,409	34.9
1951.....	21,111	40.7	1957.....	22,554	33.5
1952.....	21,705	40.3	1958.....	29,918	40.6
1953.....	24,267	41.0			

Part of the total long-term financing which is not tied up in cash balances, is used to finance relatively unimportant assets like prepaid expenses and office equipment. Most of the remaining portion of the long-term financing is available and necessary to maintain margins on borrowed securities and on collateral loans. In addition, the cash balances serve to adjust any imbalances between such current asset and current liability accounts as receivables from dealers and customers, accrued interest receivable and payable, and other temporary aberrations in the flow of funds.

FINDINGS

The single most important criterion for the choice of legal form appears to be the protection from the risk of carrying positions which are large in relation to the capital invested. The extent to which tax advantages influence the decision to incorporate is an empirical question which cannot be conclusively answered. It seems that lack of marketability of ownership rights in these firms denies the opportunity of taking full advantage of the capital gains potential under the corporate form.

The dealer market operated at the end of 1958 on the basis of an estimated capital commitment of between \$97.8 and \$107 million. Of this estimated total, the 12 nonbank dealers accounted for \$73.8 million. This capital base increased over the 11-year period despite temporary reductions which were mostly due to losses and, to some extent, capital reductions and retirement. The earned surplus accounts were the most volatile items accounting for most of the net worth and capital base reductions during the years 1950, 1951, 1955, and 1956, as well as for the overall increase in the capital base during the 11-year period.

The increase in total long-term financing over the period amounted to 35.2 percent of the 1948 capital base. Total transactions more than doubled during the same years and total position was 70 percent larger in 1958 than in 1948. A number of explanations can be given for these discrepancies: (1) The dealers had an unnecessarily large amount of capital in 1958; (2) financing techniques have been improved and less capital is needed; (3) trading has changed from activity in long-term securities to the short-term end of the market where financing is easier and lower margins are required; (4) not enough capital can be attracted into the market because rates of return are insufficient for the risk of exposure of capital funds.

Explanations (1) and (2) have been dealt with in the chapter on financing of positions (see chapter V); point (3) was discussed in the transactions and financing chapters (see chapters III and IV). The following chapter on the earnings and expenses of the dealer firms will deal at length with the issues surrounding the fourth explanation.

CHAPTER VII

SOURCES OF REVENUE, EXPENSES AND EARNINGS

Dealer functions were described in detail in earlier chapters. The dealer's functions of market making, market stabilization, transmission of changes in monetary policy as well as of day-to-day technical adjustments initiated by the open market desk take place in a competitive market. In a competitive market, where participants are expected to utilize their capital in the financing of large positions in securities, the necessary capital funds will be attracted and remain committed only if "competitive" rates of return can be realized in the long run.

Dealers render services to their customers. Part of the dealers' gross earnings can be considered as the price customers in the aggregate had to pay for these services. Net earnings realized by the dealers, on the other hand, constitute their payment for services rendered plus or minus any gains or losses incurred in exercising their general economic or market functions.

In this chapter, gross earnings will be presented and analyzed as to their origin and their fluctuations over time. Earnings arising directly from trading activity will be compared with the transaction volume from which they result to provide a measure of the cost of trading and of market efficiency. This will in turn be compared with similar measures for other important national securities markets to appraise the relative profitability of the dealer market. Impact of changes in monetary policy and general economic conditions on the amount and pattern of dealer earnings are also discussed. Finally, the relationship between earnings and dealer capital will be presented and compared with rates of return on capital funds of other financial institutions and industrial corporations.

SCOPE OF DATA AND DEFINITIONAL PROBLEMS

The questionnaire on which this study is based asked for a detailed breakdown of the income and expenses of all 17 dealers for the fiscal years 1948-58. As noted in the chapters on positions and transactions, accounting standards and agreement on terminology are conspicuous by their absence in this market. This difficulty is compounded by the complexity and variety of individual dealer operations and their cost allocation systems. Dealers responded fully to the questions relating to the sources of gross earnings from current operations. This part of the analysis of earnings can be based on complete and detailed information for most years. The data received on various expense items show less completeness and uniformity. Nevertheless, detailed expenses were reported by 16 of the 17 dealers for most of the 11 years and part of the analytical task in this chapter is to point to interdealer differences in charges made to gross earnings.

Another difficulty arises from the fact that some dealer firms are organized as partnerships while the majority are corporations. Therefore available income statements are comparable only to the item "net income before taxes." Most of the net profit comparisons and calculations will be based on this reported item rather than on net income after taxes.

In comparisons of dealer profits over time, differences in their fiscal years become important. Only a small number of dealers, however, have fiscal years apart from calendar years so that the bias introduced in estimating aggregate annual earnings will be very small. Fortunately where fiscal years differ from calendar years, transactions and capital figures are usually available for the same period. Furthermore, fiscal years overlap calendar years at least for a period of 8 months. Thus the data are comparable for the determination of individual dealers' profitability and only slightly biased for purposes of analysis of annual changes and differences in rates of annual change between dealer firms.

The available data are summarized in tables showing aggregate income and expenses for the dealer market. In aggregating the data to compute ratios the most important problem arose from the absence of some numerators or denominators. To compensate for this, some of the reported figures had to be omitted from some of the tables. However, table VII-1 presents a summary of all reported earnings and expense items. Tables VII-2, and 4 through 10, are based entirely or in part on the reports of those dealers who gave complete information on earnings as well as on expenses and transactions. The three bottom rows of table VII-2 indicate the scope of the available data. The number of dealers included never falls below 8 and is 13 for the last 6 years. This dealer group accounts for no less than 77 percent of all dealer transactions and earnings during the years 1950-58. Information on all reported data is given where possible in the form of high and low values and as averages of individual dealer ratios. Any omissions of reported data are footnoted in the tables and/or discussed in the text.

SOURCES OF EARNINGS FROM CURRENT OPERATIONS

Dealers' gross earnings are derived from five principal sources. (1) Trading with customers takes place, moving securities in and out of the dealers' positions. Any excess of sales prices over purchase prices increases gross earnings; if securities are sold at prices below acquisition costs, losses result. (2) On securities in which dealers are holding long positions, interest accrues. U.S. securities are not traded "flat," that is, accrued interest is paid by the purchaser in addition to the contracted price.¹ (3) Dealers may realize a gross profit or loss

¹ Treasury bills, of course, constitute an exception to this rule because they are traded on a discounted basis, where the discount reflects the rate of interest or, better, the yield to maturity.

from securities held in their investment accounts. As was pointed out in chapter III (positions), only a few of the dealers reported holding securities in investment accounts. Correspondingly few report on gains or losses resulting from these accounts. Some dealers stated in interviews that at times they might have held a position in investment accounts but that they were not able to report for prior years what portion of their total trading profits they had earned on investment accounts. Despite these reporting imperfections it appears from the available data that investment accounts and investment account earnings have been relatively unimportant during the period. Nevertheless, these earnings have been included in total trading profits. (4) Some dealers reported rather small earnings from "other" sources. These include such items as service charges, commissions, underwriters' fees, collection and exchange charges, et cetera. Where earnings appear under this classification they might have been derived from the subscription to and the subsequent sales of new U.S. securities issues. Only the individual reporting firms could clarify this point exactly. The reported figures under this item are small but are included. (5) Only one of the dealers reports on earnings in the form of interest received on loans. Even for this firm these earnings constitute only a very small part of total gross earnings from current operations and appear only for part of the period. For purposes of this analysis, interest received on loans can be ignored. It is included in total gross earnings from current operations.

TABLE VII-1.—*Composition of Gross Earnings from current operations and operating expenses for reporting dealers, 1948-58*

[In thousands of dollars]

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Gross earnings from current operations.....	11,681	28,241	17,708	19,880	26,149	40,753	48,771	29,392	37,580	81,701	95,666
Interest received.....	7,455	16,552	12,564	10,474	14,126	17,135	24,668	19,733	22,392	31,501	34,537
Total trading profit.....	3,891	11,390	4,700	8,978	11,354	23,002	23,346	8,696	13,933	48,563	59,984
Reported profit from investment accounts.....	3	140	368	(398)	556	(183)	897	(109)	(470)	847	11,200
Trading profit other than on investment accounts.....	3,888	11,250	4,332	9,376	10,798	23,185	22,449	8,805	14,403	47,716	48,784
Other earnings.....	335	298	445	432	671	616	756	964	1,257	1,635	1,143
Interest paid.....	4,217	10,452	8,245	8,040	10,149	13,020	15,105	14,741	16,781	29,484	26,406
Salaries.....	2,807	4,053	3,595	4,006	4,385	5,283	5,845	5,480	5,914	7,497	8,969
Other investment expenses.....	2,291	3,195	3,797	4,026	4,565	5,597	6,028	6,775	7,033	7,843	9,482
Net income from operations.....	1,520	8,014	1,041	2,916	5,150	15,037	15,419	494	2,903	27,996	33,525
Net income before taxes.....	1,519	7,969	1,110	3,201	5,037	14,805	15,102	569	3,013	27,815	33,737

NOTE.—Reported expenses plus income from operations do not add to gross earnings because fewer dealers reported on expenses than on earnings. Full adjustments for nonreported items are reflected in table VII-2. Sources of earnings may not add to gross earnings because of rounding.

TABLE VII-2.—*Earnings and expense items as percentages of gross earnings from current operations, all reporting dealers, 1948-58*

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Total trading profit.....	32.5	39.4	29.1	48.9	44.8	57.4	47.6	31.3	41.9	63.8	67.2
Interest received.....	65.3	59.5	68.4	48.8	52.1	49.9	50.4	64.7	54.0	33.8	31.4
Other earnings.....	2.2	1.1	2.5	2.3	3.1	1.7	2.0	4.0	4.1	2.4	1.4
Gross earnings.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Interest paid.....	42.3	44.4	56.4	48.3	47.6	37.1	39.3	69.3	57.5	45.0	35.4
Salaries.....	26.1	15.4	21.4	20.8	18.3	13.5	13.8	20.2	18.3	10.5	11.2
Other current expenses.....	21.2	11.7	22.9	20.9	19.0	14.3	15.8	25.2	21.8	10.8	11.9
Local taxes and statistical discrepancy.....	1.4	1.2	1.1	.8	.9	.6	.5	.5	.7	.6	.9
Net income before special charges and income taxes.....	9.0	27.3	(1.8)	9.2	14.2	34.5	39.6	(6.4)	1.7	33.1	40.6
Number of dealers reporting.....	8	10	11	12	12	13	13	13	13	13	13
Transactions included in table as percentage of total for all dealers.....	59.5	67.3	78.6	79.0	78.3	85.6	83.5	81.4	78.9	78.1	79.3
Gross earnings included in table as percentage of total earnings for all dealers.....	84.4	81.6	81.0	83.7	81.5	85.8	78.3	82.9	77.2	79.6	76.9

TRADING PROFITS, SPREADS, AND PROFIT MARGINS

Data on the amount and composition of reported aggregate dealer earnings from current operations are presented in table VII-1; the percentage distribution of aggregate earnings and expenses adjusted for missing information is given in table VII-2. In 3 of the 11 years, 1953, 1957, and 1958, trading profits constituted the single largest source of aggregate dealer gross earnings. They were second only to interest received on securities in the other 8 years. The performance of the dealers, their traders, and the existence of competitive market pressure can be appraised by comparing prevailing spreads with the profit per dollar of transactions reported by the dealers.

Dealer pricing is one of the most important aspects of dealer strategy. Telephone publicity on competitors' runs and active shopping by customers around the dealer circuit exert considerable pressure on the trader to quote competitive prices. He must avoid widening the spreads between quoted bids and asked prices or the customer will buy from or sell to another dealer. On the other hand, to avoid losses, he does not want to shade his prices too much. Annual trading profits will result only from successful pricing over the course of a year. Thus the policy of the firm, the skill and experience of traders, plus the size of spreads between purchase and sale prices allowed by the market determine the amount of trading profit a dealer firm can realize.

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TABLE VII-3.—Price quotations for U.S. Treasury bonds and notes

Amount outstanding (in millions)	Coupon	Maturity	Bid	Asked	Spread	Yield
(1)	(2)	(3)	(4)	(5)	(6)	(7)
\$5,264	2¼	June 15, 1962/59	97-31	98-3	4	3.29
\$3,452	2¼	Dec. 15, 1962/59	97-20	97-24	4	3.22
\$9,561	4¾	Aug. 15, 1960	100-6	100-8	2	1.78
\$278	1½	Oct. 1, 1960	99-20	99-24	4	2.67
\$3,806	2¼	Nov. 15, 1960	99-23	99-25	2	2.77
\$1,485	2¾	Dec. 15, 1965/60	99-31	100-3	4	2.73
\$144	1½	Apr. 1, 1961	98-30	99-6	8	2.65
\$4,078	3¾	May 15, 1961	100-10	100-13	3	3.13
\$2,136	4	Aug. 1, 1961	100-29	101-1	4	2.99
\$2,239	2¾	Sept. 15, 1961	99-13	99-17	4	3.16
\$332	1½	Oct. 1, 1961	98-2	98-10	8	2.92
\$6,962	2½	Nov. 15, 1961	98-29	99-1	4	3.25
\$647	3¾	Feb. 15, 1962	100-16	100-20	4	3.22
\$1,435	4	Feb. 15, 1962	100-30	101-2	4	3.31
\$551	1½	Apr. 1, 1962	97-8	97-16	8	3.00
\$2,211	4	May 15, 1962	100-29	101-1	4	3.41
\$2,109	2½	June 15, 1967/62	92-	92-8	8	3.78
\$158	4	Aug. 15, 1962	100-28	101-4	6	3.43
\$590	1½	Oct. 1, 1962	96-10	96-18	8	3.12
\$1,143	3¾	Nov. 15, 1962	100-17	10 0-21	4	3.46
\$3,971	2½	Feb. 15, 1963	97-22	97-26	4	3.51
\$533	1½	Apr. 1, 1963	95-12	95-20	8	3.19
\$1,743	4	May 15, 1963	100-30	101-2	4	3.60
\$6,755	2½	Aug. 15, 1963	96-27	96-31	4	3.58
\$506	1½	Oct. 1, 1963	94-14	94-22	8	3.25
\$3,011	4¾	Nov. 15, 1963	103-23	103-27	4	3.64
\$2,815	2½	Dec. 15, 1968/63	90-2	90-10	8	3.85
\$3,854	3	Feb. 15, 1964	97-27	97-31	4	3.60
\$457	1½	Apr. 1, 1964	93-14	93-22	8	3.31
\$4,933	4¾	May 15, 1964	103-22	103-26	4	3.67
\$3,895	3¾	May 15, 1964	100-6	100-10	4	3.66
\$3,738	2½	June 15, 1969/64	89-12	89-20	8	3.88
\$2,316	5	Aug. 15, 1964	104-23	104-27	4	3.71
\$490	1½	Oct. 1, 1964	92-14	92-22	8	3.38
\$4,195	4¾	Nov. 15, 1964	104-13	104-17	4	3.73
\$3,812	2½	Dec. 15, 1969/64	88-30	89-6	8	3.88
\$6,896	5¾	Feb. 15, 1965	95-20	95-24	4	3.64
\$4,691	2½	Mar. 15, 1970/65	85-20	88-28	8	3.89
\$58	1½	Apr. 1, 1965	91-4	91-12	8	3.50
\$2,113	5¾	May 15, 1965	103-20	103-24	4	3.77
\$2,938	2½	Mar. 15, 1971/66	87-16	87-24	8	3.91
\$1,484	3	Aug. 15, 1966	96-18	96-26	8	3.59
\$1,806	2½	June 15, 1972/67	87-8	87-16	8	3.81
\$2,716	2½	Sept. 15, 1972/67	87-	87-8	8	3.82
\$3,633	2½	Dec. 15, 1972/67	87-4	87-12	8	3.79
\$320	3¾	May 15, 1968	100-4	100-12	8	3.82
\$1,276	4	Oct. 1, 1969	101-10	101-18	8	3.79
\$654	3¾	Nov. 15, 1974	99-12	99-20	8	3.91
\$470	4¾	May 15, 1985/75	102-16	102-24	8	4.00
\$1,600	3¼	June 15, 1983/78	91-20	91-28	8	3.78
\$884	4	Feb. 15, 1980	100-8	100-16	8	3.96
\$1,135	3¼	May 15, 1985	91-20	91-28	8	3.75
\$1,727	3½	Feb. 15, 1990	93-4	93-12	8	3.88
\$2,727	3	Feb. 15, 1995	87-2	87-10	8	3.65

Parts of a price-quotation sheet published by one of the dealers on July 13, 1960, are presented in table VII-3. Bid and asked prices are given for U.S. securities arranged by maturity classes of under 1 year, 1 to under 5 years, 5 to under 10 years, and 10 years and over. Column 6 contains the spreads between the bid and asked prices measured in thirty-seconds of a point. For maturities under 1

year spreads vary between two and four thirty-seconds. Only one spread amounts to eight thirty-seconds. This issue, the 1½'s of April 1, 1961, is very small in comparison to the dollar amounts of comparable issues outstanding at the same time.

For the longer maturities spreads become at least four thirty-seconds, and with increasing frequency, eight thirty-seconds. In the 1 year to under 5 year maturity class, 13 spreads reach eight thirty-seconds. Eight of these issues have dollar amounts outstanding of less than \$600 million. This is a reflection of the thinness of the market in these issues and is consistent with observations made in earlier chapters (see chs. III and IV).

If two transactions, i.e., a purchase and sale, in a 4-year maturity could be made on the same day for cash settlement at a spread of one-eighth of a point, the dealer would earn a gross profit of \$1,250 on a \$1 million sale. One point on a \$1,000 bond is \$10. Certificates, notes, and bonds are quoted in terms of prices, and points are expressed normally in thirty-seconds, sometimes in sixty-fourths, and occasionally one-hundred-twenty-eighths. Prices and spreads in table VII-3 are outside (small lot, published) quotations. For purposes of inside (interdealer or large lot) quotations spreads normally will be considerably narrower if the dealer wants to trade in any of the securities on his list. The gross profit on the hypothetical transaction described above is, therefore, likely to be higher than profits typically found in trading. It would be further reduced by the costs of carrying a position in the security.²

The size of inside and realized spreads varies between individual issues, within maturity classes and with changing money market and economic conditions. At the same time, traders' expectations as to changes in money market rates and, consequently, changes in bond, note and certificate prices, determine the positions to be carried. Purchasing into a position at the beginning of a decline in interest rates will boost the spread realized on subsequent sales out of position. During such periods, realized spreads may be larger than spreads on inside bid and asked quotations. During periods of rising interest rates the converse will often be true; realized spreads may be negative and/or smaller than quoted spreads.

Treasury bills are quoted on a yield basis. Spreads between the bid and asked yields rarely become larger than 6 to 8 basis points until the bill approaches maturity. This means that a bill with 83 days to maturity in July 1960 would be quoted at 2.46 percent bid and 2.42 percent asked. The spread in this case is 4 basis points. It would represent a gross trading profit of \$113.30 to a bill dealer who bought and sold \$1 million of the bills at the quoted prices during the same day for cash delivery.

As Treasury bills approach maturity, the spread increases as the prices of the security, expressed as yields, decrease. A bill with two days to maturity acquired at a bid price of 1.70 percent, and sold at the asked price of 1.40 percent, that is, with a 30 point spread, would bring the dealer a gross profit of \$10 on a \$1 million transaction. This gross profit would be consumed by the clearing charge of \$10 per \$1 million transaction which the clearing agent charges to the dealer.

² For detail on interest received and interest paid out see the next section of this chapter.

During the 11 years, spreads on long-term securities appear to have widened mostly as consequence of the deterioration of the long-term market and the unpegging of interest rates. During the late forties a spread of one thirty-second on long term bonds is reported to have been prevalent. Spreads on Treasury bills also seem to have widened somewhat. However, 2-point spreads on bills still are encountered rather frequently.

The widening of spreads is probably important in analyzing the basic tendency of the long-term market to become thinner and less supported by position-taking and arbitrage operations. At the shorter end, narrowing and widening of spreads indicate short-term changes more than any long-term trends. The direction of changes in the money market appears more important for the profitability of dealer operations than changes in spreads between quoted prices. This last point is supported by the following analysis of the relationship between trading profits, gross earnings, and transaction volume.

Judging on the basis of the data presented in table VII-2, one could conclude that widening of quoted spreads has caused trading profits to gain in relative importance as a source of earnings. From 1950 on, with the exception of 1955, trading profits increased as a percentage of total earnings. This argument may be fallacious, however, because it is based on the ratio of trading profits to gross earnings which themselves are subject to wide fluctuations. A better measure is presented in table VII-4, where trading profits and other earning and expense items are related to dollars of sales. Using this measure, increases in profits which are proportional to increases in sales are eliminated. Moreover, fluctuations in trading profits are separated from other gross earnings to permit comparison of changes in the composition of gross earnings per dollar of sales.

Four peak profit years stand out: 1949, 1953, 1957, and 1958. The other years between 1949 and 1958 show considerably smaller ratios of trading profit to sales or decreases from preceding peak ratios. In some part of the 4 peak years, there were recessions and in all of them the Federal Reserve System initiated or continued to pursue a policy of monetary ease. Securities prices rose and dealers were stimulated to increase their commitments in the form of larger positions and were able to sell at increased realized spreads.

Even in the recession of 1949, when the Federal Reserve discount rate was not lowered, prices of all maturities of Governments appreciated because of a policy of monetary ease. The effect proved to be in the same direction as in 1957, when the discount rate was lowered and additional reserves were made available to the banking system through open market operations. In 1953, the Federal Reserve began to supply more reserves before the discount rate was lowered early in 1954. The resulting price appreciation of Governments began during the second half of 1953:

TABLE VII-4.—*Earnings and expense items in dollars per \$1,000,000 of sales, all reporting dealers, 1948-58*

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Total trading profit.....	60.65	153.11	46.40	104.15	112.06	213.99	152.58	71.48	117.22	370.04	353.46
Interest received.....	121.86	231.22	109.06	103.93	130.32	152.48	161.55	147.76	151.07	196.04	165.16
Other earnings.....	4.11	4.27	3.98	4.90	7.76	6.33	6.41	9.14	11.47	13.92	7.36
Gross earnings.....	186.62	388.60	159.44	212.98	250.14	372.80	320.54	228.38	279.76	580.00	525.98
Interest paid.....	78.94	172.54	89.92	102.87	119.07	138.31	125.97	137.71	180.86	261.00	186.20
Salaries.....	48.71	59.84	34.12	44.30	45.78	50.33	44.23	46.13	51.20	60.90	58.91
Other current expenses.....	39.56	45.47	36.51	44.51	47.53	53.31	50.64	57.55	60.99	62.64	62.59
Local taxes and statistical discrepancy.....	2.61	4.66	1.76	1.71	2.24	2.23	1.62	1.61	1.95	3.48	4.73
Net income before special charges and income taxes.....	16.80	106.09	(2.87)	19.59	35.52	128.62	98.08	(14.62)	4.76	191.98	213.55
Number of dealers reporting.....	8	10	11	12	12	13	13	13	13	13	13

The poor trading profits of 1955 can be explained by the opposite policy pursued by the Federal Reserve. The discount rate in New York rose more steeply in this year than during any other calendar year between 1948 and 1958. It climbed from 1½ percent early in the year to 2½ percent in December of 1955. By comparison, the rise in the rate during 1950, another poor trading profit year, amounted to only one-quarter of 1 percent. The period of late 1949 to early 1950, however, was the starting point for the substantial depreciation in security prices caused by tighter monetary policies and two hikes in the discount rate.

The evidence suggests strongly that dealers' trading profits are most heavily influenced by monetary policy changes. While they take advantage of periods of monetary ease by increasing their positions and selling at wider realized spreads, the opposite response does not occur during the beginning of monetary restraint. Short selling is only rarely conducted in anticipation of downward movements of prices. Reasons for this were discussed in detail in earlier chapters. The pattern of trading profits is added evidence for the conclusions arrived at there.

Changes in monetary policy appear to be mostly responsible for the peaks and troughs in trading profitably. Other causes for the generally higher level of trading profits since 1953 must be discussed. (1) The composition of trading volume by maturity classes may have changed in a manner which influenced trading profits. (2) Wider spreads may have been quoted and realized in recent years. For this discussion it is helpful to draw on the available information on changes in the composition of trading volume and on trading profit ratios of individual dealers. Table VII-5 presents these two measures of trading profitability and shows high, low, and average ratios of trading profit to gross earnings and to sales.

The average of the ratios for individual dealers tend to be higher in most years because they give equal weight to small and large firms,

and extreme fluctuations in earnings occur in small firms more often than in larger, more diversified dealerships. Individual dealer margins vary substantially over time. Four dealers account for the 11 high ratios of trading profits to sales volume. Three of the same four dealers also showed the lowest trading profit margins (or highest loss margins) for 6 of the 11 years. The other five low figures are accounted for by one of the bank dealers. One dealer stands out by providing the highest profit margin in 4 years and the lowest margin (or highest loss margin) in 4 other years.

During the period from 1948 to 1951, the highest profits and losses seem to have been realized by those dealers operating mostly at the long end. 1950, 1951, and 1958, all years with breaks or declines in security prices, produced the largest losses for dealers in longer maturities. The high profit ratios for 3 of the last 4 years were reported by firms trading and holding positions mostly at the short end of the market. This same group of dealers was less affected by the reverses of 1955 than were dealers who operate more at the long end or over the whole range of the market.

Dollar trading volume in Treasury bills has increased steadily over the period with only two interruptions in 1955 and in 1958. Bill trading as a percentage of total transactions has fluctuated more over the 11 years, but around an increasing trendline. The decline of the share of certificate trading was compensated by increased bill trading and by increases in relative volume of 1- to 5-year maturities. It appears that this changing composition of total trading volume helps to explain the heavy impact of monetary policy on individual dealers, especially on those operating at the long end of the market. However, in chapter IV, we found only two strong trends in the composition of trading volume, namely, increase in bill volume and decrease in trading of maturities over 5 years. It is doubtful that these changes have had the effect of increasing realized spreads at the short end. The profits realized from trading a larger volume of bills have not been offset by losses which would have occurred on substantial positions in long-term securities had these positions not declined.³

One suggested explanation for a higher level of profit margins in recent years is the widening of spreads between quoted bid and asked prices. The evidence on this issue is scanty. It appears doubtful, however, that the dealers can increase their realized spreads by giving outside and inside quotations with wider spreads. Pressure from experienced and mostly large customers would soon enforce competitive pricing even if the dealers by some means attempted to maintain a wider spread. Among the customers there is, of course, the Federal Reserve Bank of New York which at any given time during the trading day is well informed about all dealers' price runs.

³ One additional note of caution: the data go back only to 1948. The level of profits during the years 1948-52 may appear lower than the average profit margins over the last 6 years only because the early years were not typical. Profit margins before 1948 and before the Second World War may have been as high or higher than those of the last 6 years for which data are here available.

TABLE VII-5.—Total trading profit as percentage of gross earnings and in dollars per \$1,000,000 of sales, all reporting dealers, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Aggregate trading profit as percentage of gross earnings	32.5	39.4	29.1	48.9	44.8	57.4	47.6	31.3	41.9	63.8	67.2
Trading profits as percentage of gross earnings, for all individual dealers:											
High	54.7	70.0	47.8	81.6	72.1	86.0	59.5	69.0	75.9	82.4	86.7
Low	19.7	2.2	(46.2)	2.9	(7.4)	39.3	28.3	(11.3)	(31.7)	22.3	(60.1)
Average	¹ 36.7	40.1	25.9	¹ 43.3	¹ 46.1	58.4	50.2	¹ 33.6	¹ 48.1	56.9	59.3
Aggregate trading profit in dollars per \$1,000,000 of sales	\$60.65	\$153.11	\$46.40	\$104.15	\$112.06	\$213.99	\$152.58	\$71.48	\$117.22	\$370.04	\$353.46
Aggregate trading profit per million as multiple of $\frac{1}{32}$ (\$312.50 per million dollars)	.19	.49	.15	.33	.36	.68	.49	.23	.38	1.18	1.13
Trading profits in dollars per \$1,000,000 of sales, for all individual dealers:											
High	240.00	360.00	74.00	274.00	492.00	750.00	780.00	152.00	386.00	1,290.00	702.00
Low	(460.00)	8.00	(386.00)	(1,774.00)	(8.00)	100.00	76.00	(52.00)	(54.00)	42.00	(940.00)
Average	¹ 96.00	164.00	¹ 44.00	¹ 110.00	¹ 172.00	272.00	234.00	¹ 74.00	¹ 156.00	380.00	¹ 390.00

¹ Firms with negative trading profits were omitted in the calculation of the average ratio. Firms with both negative gross earnings and trading losses were omitted in high, low and average ratios.

The only widening of quoted and realized spreads appears to have taken place at the long end of the market, especially for issues which do not trade actively or for which the amount outstanding is relatively small. Often quoted prices will show large spreads because the dealer cannot increase his bid price without attracting securities which the dealer does not want to position.

Moreover, it is at the long end of the market where some of the dealers have increasingly acted as an agent for their customers. When the dealer acting as agent does not charge a commission, his reward is the difference between the price his customer is willing to pay and the price at which he can obtain the securities by shopping around. If a commission is charged, it amounts typically to one sixty-fourth of a point. It is conceivable that shopping around for a customer may produce a wider realized spread for the dealer in the long run—but mostly because he reduces the risk represented by a position in securities and avoids any holding cost. In other words, a dealer can increase his realized spreads by acting as a broker and thereby avoiding losses from price declines.

Thus, the substitution of bill positions for positions in very long term securities and the transactions conducted on an agency rather than a dealer basis may help to explain the widening of realized spreads. The primary cause is the structure of the outstanding marketable debt and the resulting thinness of the long-term market which makes positioning of long-term securities very risky. These factors reinforced the effects of changing monetary policies on dealers' trading profits over the last 6 years.

In table VII-5, aggregate dealer trading profits also have been expressed as multiples of one thirty-second of a point. In only 2 years, 1957 and 1958, trading profits amounted to more than one thirty-second, that is \$312.50 on a \$1 million sale. In 8 of the 11 years, trading profits amounted to less than one sixty-fourth. Translated into percentage points, this means profit margins of .03125 and .0156 percent respectively. While the average margins over the last 6 years are higher than for the first 5 years, they still are considerably smaller than commission rates charged in other securities markets.

In the over-the-counter securities markets, Friend et al. give information on commissions and gross profit margins⁴ for a variety of security transactions. For the period September through October 1949, they report gross profit margins on U.S. Government securities traded by over-the-counter dealers of 0.1 percent, 0.4 percent on State and municipal securities, 0.4 percent on corporate bonds, and on corporate common stock 1.7 percent (all for transactions ranging from \$50,000 to \$99,999). This compares with a generally accepted figure for the average cost of transacting business with member firms of the New York Stock Exchange of 3 percent. All these cost figures are for purchases or sales only.

There are good reasons, of course, why one would expect the cost of trading U.S. Government securities to be much lower than that of trading in municipal and corporate securities. The risk of holding a given dollar amount of Governments is much less than that of holding the same value in corporate securities. The average size of trans-

⁴ Op. cit., pp. 342-409.

actions in Governments is much larger than the average size of transactions in corporates and municipals, thus reducing the burden of handling and administrative charges. These considerations are reflected in the marketing of Government securities.

INTEREST RECEIVED AND INTEREST PAID

U.S. securities are not traded flat. Interest accrued during the time a security has been held is paid in addition to the contracted price for all maturity classes other than Treasury bills. This interest is shown separately as a source of current operating income by all reporting dealers. It represents an important offset against the dealers' interest expenses and should be viewed in conjunction with the cost of financing positions which is reflected in these data by the item interest paid. For 8 of the 11 years, the differential between interest received and interest paid was positive and added to net income before taxes.

TABLE VII-6.—*Interest received and interest paid as percentages of gross earnings, all reporting dealers, 1948-58*

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Interest received.....	65.3	59.5	68.4	48.8	52.1	40.9	50.4	64.7	54.0	33.8	31.4
Interest paid.....	42.3	44.4	56.4	48.3	47.6	37.1	39.3	60.3	57.5	45.0	35.4
Interest differential.....	23.0	15.1	12.0	.5	4.5	13.8	11.1	4.4	(3.5)	(11.2)	(4.0)
Interest as percentage of gross earnings for all individual dealers:											
Interest received:											
High.....	80.3	95.6	93.9	97.1	98.8	60.7	66.4	92.9	71.5	77.7	75.2
Low.....	45.3	29.1	44.0	18.4	27.9	12.9	25.4	21.8	24.1	17.6	12.0
Average.....	60.9	59.0	72.0	55.3	55.7	40.6	47.6	64.1	48.5	41.2	38.9
Interest paid:											
High.....	56.3	88.0	96.3	94.0	97.9	81.4	90.7	251.2	157.1	99.6	81.2
Low.....	23.7	20.7	36.0	22.5	28.7	22.4	17.6	18.5	21.4	18.8	15.6
Average.....	38.5	46.5	67.2	55.8	51.6	40.5	41.9	88.2	73.8	46.9	39.3

¹ Firms with negative trading profits and/or negative gross earnings were omitted.

² Firms with negative gross earnings were omitted.

Table VII-6 shows interest received and interest paid as percentages of total gross earnings. Row three gives the interest rate differential, showing the excess of received interest over interest paid. The fact that this differential is positive during the period from 1948 to 1955 and negative thereafter, is another indication of the shift in maturity composition of positions held by the majority of the dealers and of the important changes in monetary policy during the period. Up to 1956, the yield on long-term Governments stayed roughly 1

percent above the rediscount rate.⁵ Yields on 5- to 10-year bonds maintained a smaller differential above, and bills and certificates moved in close accordance with the rediscount rate. This traditional set of relationships was changed during the period beginning in late 1955 and continuing through 1957. During this period, dealers held more of their positions than previously in shorter maturities which they had to finance at rates often well in excess of the rediscount rate. This resulted in the negative "carry" expressed by the excess of interest cost of carrying a position over the interest received on the securities held.

Table VII-7 presents interest received and interest paid in dollars per \$1 million sales. Data in this table eliminate the distorting influence of fluctuations in gross earnings. The interest differential, expressed in dollar margins, is of course still negative for the last 3 years. Insight into the reason for this reversal can be gained from consideration of individual dealers' ratios.

⁵ See comments on relevant rates of return on securities in dealers position later in this chapter.

TABLE VII-7.—Interest received and interest paid in dollars per \$1,000,000 of sales, all reporting dealers, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Interest received.....	121.86	231.22	109.06	103.93	130.32	152.48	161.55	147.76	151.07	196.04	165.16
Interest paid.....	78.94	172.54	89.92	102.87	119.07	138.31	125.97	137.71	160.86	261.00	186.20
Interest differential.....	42.92	58.68	19.14	1.06	11.25	24.17	35.58	10.05	(9.79)	(64.96)	(21.04)
Aggregate interest in dollars per \$1,000,000 of sales for all individual dealers:											
Interest received:											
High.....	979.00	2,817.00	1,222.00	935.00	324.00	395.00	748.00	441.00	473.00	659.00	928.00
Low.....	77.00	114.00	61.00	29.00	95.00	70.00	47.00	44.00	37.00	39.00	51.00
Average.....	210.00	431.00	248.00	179.00	169.00	181.00	246.00	195.00	184.00	268.00	284.00
Interest paid:											
High.....	486.00	1,450.00	738.00	692.00	374.00	444.00	492.00	526.00	674.00	1,716.00	1,020.00
Low.....	50.00	152.00	64.00	54.00	32.00	48.00	58.00	44.00	50.00	56.00	50.00
Average.....	136.00	328.00	192.00	176.00	158.00	194.00	366.00	220.00	252.00	394.00	302.00

The annual high, low, and average dollar interest margins among individual dealers are also presented in table VII-7. One firm trading in long-term securities accounts for the high interest-received margins in 9 of the 11 years. The same firm accounted for most of the annual high and low trading profit margins. Apparently this dealer benefited from the higher yield of the long-term securities in his position but lost as heavily on price depreciation as he gained from price appreciation. The same reasons account for the relatively high interest-received ratios of some of the other dealers who emphasize trading at the long end.⁶

A number of factors in combination lead to variations over time and between dealers in the interest-received dollar margin: (1) The higher the proportion of long-term securities in a dealer's position, the higher will be the amount of interest received. (2) For the dealers individually and as a group, interest receipts fluctuate with prevailing money market rates and yields. This factor tends to act as an offset against rising dealer trading profits during periods of monetary ease and to increase their trading profits during periods of monetary restraint. The effects of changing monetary policies on interest receipts will be greater when and where the dealers' holdings of long-term bonds amount to a large part of their position. (3) Since the interest-received ratio is composed of interest as numerator and dollar sales as denominator, it will be higher for firms with lower turnover of positions, other things equal.

Most of the variations in firms' interest-received margins can be explained on the basis of the above three factors. In some cases, however, a firm trading at the long end shows a high turnover of position which results in some atypical variations in interest margin. The benefit of rising yields when money is tightened is normally weakened by the reduction of dealer positions, especially of positions in long-terms. However, shifts in the maturity composition of positions are of minor importance for the dealers as a group though they help to explain interdealer variations. Atypical interest received margins for firms that would otherwise fall into the high or low categories because of their transactions characteristics most often result from exceptionally high or low position turnover rates.

The available evidence does not support so clearly a set of explanations of observed variations in dealers' interest-paid margins. In tables VII-6 and VII-7 these measures are presented for all dealers who furnished complete reports, and again, high, low, and average ratios for all individual dealers are given. One fact stands out clearly. Of the five bank dealers only three report on interest paid. To them this interest cost is based on an internally charged rate because they use their own funds for financing of positions. In most of the years this rate appears to have been lower than the rates paid by the reporting nonbank dealers. In only 3 years, 1955, 1956, and 1958, are the interest-paid margins reported by any of the banks above the average for all dealers. Bank dealers account for the lowest interest-paid margins in 8 of the 11 years.

In this context the question arises what the real interest cost is to dealer banks who finance their positions with their own funds. Some

⁶ As noted earlier, the publicly quoted yields on U.S. securities are not the relevant rate of return to the dealers. They do not hold instruments long enough to take advantage of the capital gain to maturity.

of the nonbank dealers stated that the banks' cost was substantially lower than that borne by nonbank dealers. This argument implies that the bank dealers could not employ the funds in some alternative way, e.g., by selling Federal funds, investing or lending. If the bank dealers use the rediscount privilege to carry a position without foregoing other investment opportunities, the rediscount rate would be the relevant cost of financing.

The nonbank dealers have been able to borrow from New York banks at rates lower than the discount rate only on rare occasions. They have met this competitive disadvantage by mobilizing funds from commercial banks and nonfinancial institutions all over the country—and often borrowed from these sources at rates below the New York discount rate as we have seen. It is also likely that the bank dealers find funds more easily available than nonbank dealers. The fact that bank dealers' internally charged interest rates appear to be below the rates paid by the nonbank dealers does not necessarily reflect a real cost differential but results in an understatement of interest paid for the group of dealers whose reported data are contained in tables VII-6 and VII-7. If all interest received and interest paid by the reporting bank dealers were excluded from these figures, a negative interest differential would appear for the years 1951, 1952, and 1955.

The interest-paid ratio, expressed in dollars per \$1 million sales, is influenced by a greater number of factors than the interest-received ratio. In connection with the analysis of variations in individual dealers' ratios, the following general influences will be discussed: (1) Changes in the level and structure of interest rates raise or lower interest payments necessary to finance a given position in securities. (2) Interest rates charged by lenders may be influenced by size of firm, performance of dealers, or by the degree of leverage employed in financing a position. (3) The mix of financing methods utilized by the dealers as a group or by individual dealers may raise or lower interest expenses as we saw earlier. (4) The composition by maturity classes of positions financed by dealers over time has changed in favor of more short-term securities and has been different at identical times for different individual dealers. This factor is important only if it is more expensive to finance longer maturities than it is to finance a position of short-term securities. (5) The treatment of the costs of repurchase agreements is neither clear nor consistent. Some dealers who consider repurchase agreements as loans would include the cost of RP's in interest paid. Where RP's are treated as outright sales and purchases of securities, their cost would be reflected in a reduction of trading profits. (6) Finally, the relationship between sales volume and size of positions will be reflected in the interest-paid margin. Again, as for interest-received ratios, firms with relatively higher turnover should show lower interest paid margins.

The most easily identifiable causes for changes in interest-paid ratios are the level of interest rates and changes in monetary policy. The trend in interest-paid ratios for all dealers has been upward—following the increase in the level of interest rates since 1949-50. There are three interruptions of this upward trend; in 1950, 1954, and in 1958. In two of these periods, monetary policy changed from restraint to ease to stave off a recession. In 1950, no change occurred in the policy pur-

sued; on the contrary, the discount rate was raised late in 1950. The explanation lies in the drastic reduction of dealer positions during the year and in the large increase in total transactions reported for the year. As a result of these two factors, interest-paid ratios decreased from the previous year for all but one of the dealers.

In 1954 and in 1958, the effects of lowered discount rates, open market operations, and a substantial increase in reported sales combined to lower the interest-paid margin. In these 2 years, the impact was not as uniform as in 1950. During 1954, five of the dealers showed higher margins of interest paid than in 1953, and three had 1958 margins above those reported for 1957. Of the five firms who behaved in this way during 1954, three had increased their total positions; three had changed from a long position in 1953 to a short position in bonds of over 5-year maturities. During 1958, only one of the three exceptions among dealers increased total position, but all three of them added to their 1957 holdings of long-term securities. At the same time, their transactions increased or, in one case, remained roughly at the 1957 level. Thus, the conclusion still appears valid that changes in monetary policy and the general level of interest rates mostly determined variations in interest-paid margins over time.

Other factors are not as easily traced in their effects on interest costs. It is difficult to evaluate the influence of size of firm and dealer performance. The available data indicate that the interest-paid ratios tend to be higher for the smaller dealers and probably reflect the payment of brokerage fees to the money broker. Other explanations derive from a comparison of interest-paid margins with position turnover rates for individual dealers. Among the five dealers with the highest interest-paid margin are four with the lowest position turnover ratios. The opposite is true for the five dealers with the lowest interest-paid margins; four of them also show four of the five highest turnover rates.

Another reason for deviation from the typical pattern of interest-paid ratios occurs as the result of financing a position in non-Government securities. The cost of carrying the non-Government part of the position will be reflected as interest expense. For the calculation of the turnover rate, only the position in U.S. Treasury securities was used. This seems to apply to at least two dealers who have had sizable transactions in municipals, corporates, and acceptances.

Dealers may differ among themselves in their efficiency of locating funds and finding the cheapest financing mix on any given day. Their very efforts in this direction, however, tend to spread the intended impact of monetary policy, and, at the same time, tend to eliminate differences in individual dealers' financing costs. Accordingly, inter-dealer variations in interest-paid ratios can be expected to be largest around the times of changes in monetary policy and to disappear largely with time and increasing effectiveness of monetary actions taken.

The effect of maturity mix of positions again cannot be isolated because of a lack of relevant information. It is likely, however, that financing costs increase with the time to maturity of securities financed. This effect is known in part. The higher margins often required on collateral loans on other than short-term securities, for instance, result in slightly higher effective borrowing costs. More

information on loan rates must be gathered before any further conclusions can be made with accuracy.

The same applies to the treatment of the cost of repurchase agreements. Where RP's are considered as ordinary sales and purchase transactions, they increase sales volume rather than, or in addition to, increasing the amount of financing contracted during the course of the years. The cost of RP's may be treated as interest cost or may appear in dealer trading profits as two realized spreads. One spread would be negative on a straight RP and would be the difference between sales price and repurchase price. The second spread would arise as the positive or negative difference between repurchase price and final sales price. Firms which treat RP's as sales and purchases and add the cost of some or all RP's to interest costs have lower interest-paid margins than those firms charging interest on RP's but omitting them from sales volume. Finally, dealers who do not add cost of RP's to interest expense but increase their sales volume by the amount of RP's, show even lower interest-paid margins.

The effect of differences in position turnover rates on the interest-paid margin was discussed in connection with the analysis of firm size and dealer performance earlier in this section. To summarize here briefly: The higher the rate of turnover achieved with a given position, the lower will be the interest-paid margin. Some distortions, however, arise from the differences in reporting of positions on an executed versus a commitment basis, and the treatment of RP's which may or may not appear in a dealer's position. This and the other problems raised in this chapter will be important in future preparations of consistent statistical series on the dealer market.

Valuable assistance in improving reports can be accomplished through action by the Federal Reserve Bank of New York in concert with the accountants of the dealer firms and their auditors. Through the cooperation of these two groups, minimum acceptable standards can be achieved which will greatly facilitate the current collection of information now underway at the New York bank.

OTHER EARNINGS AND PROFITS FROM INVESTMENT ACCOUNTS

Other earnings and profits from investment accounts amounted to a relatively small part of gross earnings over the reporting period. The following table summarizes the available information.

TABLE VII-8.—*Other earnings and profits from investment accounts, all reporting dealers, 1948-58*

	Other earnings (In \$1,000)	Number of dealers reporting	Profits from investment accounts (In \$1,000)	Number of dealers reporting
	(1)	(2)	(3)	(4)
1948.....	333	3	(1)	1
1949.....	298	6	(1)	1
1950.....	445	6	368	2
1951.....	432	5	(398)	2
1952.....	671	8	556	5
1953.....	606	6	(183)	4
1954.....	732	6	897	5
1955.....	937	6	(109)	5
1956.....	1,223	7	(470)	5
1957.....	1,442	6	11,200	4
1958.....	982	6	4,542	2
Total, 11 years.....	8,101	-----	16,666	-----

¹ Not available under the rules covering submission of the data.

The source of "other earnings" is not clear. The bulk of them are reported by two of the larger nonbank dealers and by two bank dealers. The figures have been added into gross earnings from current operations and are therefore reflected in net income before taxes. Dealer firms reporting these figures have had some operations in addition to dealing in Treasury securities. Other earnings reported may have resulted from such operations. They are small enough in relation to total gross earnings to omit them from further discussion.

The interesting fact about reported profits from investment accounts is that four of the five firms reporting in any one year are partnerships. Two explanations can be given for the apparently predominant use of investment accounts by partnerships.

First, partners in high tax brackets list their share of the partnership's long-term capital gain on their individual income tax returns. They may choose to have the gain taxed as ordinary income or have it taxed separately at a maximum 25-percent rate. For partners in marginal tax brackets higher than 50 percent, it pays to choose the 25-percent rate. If a partner is in an 80-percent tax bracket, this method would save him approximately 55 percent of his income from capital gains—the excess of tax under method 1 over the tax in method 2.

A corporation has the same alternatives. The highest marginal corporate tax bracket is roughly 52 percent. This would represent an advantage of 27 percent of method 2 over method 1. To the stockholder of the corporation, however, another tax is unavoidable, if

he wants to get the income from capital gains out of the firm. If dividends are disbursed, they will become taxable to him at his personal income tax rate. In order to take advantage of the more favorable capital gains tax rate, he would have to dispose of part or all of his interest in the firm. The latter procedure is unlikely to be chosen until retirement, and will depend even then on the marketability of his share in the firm. If dividends are declared, the residual gain from the investment account will be further reduced below the gain he could have realized had he not been a stockholder but a partner or individual subject to only one tax. Capital gains are therefore more attractive to the partners of a firm than to the stockholders of a corporation.

Second, the 1954 Internal Revenue Code provides that security dealers have to separate clearly within 30 days after purchase any securities held for investment purposes from securities held for trading purposes. It is more difficult for principals in a partnership to establish this separation than it is for individual stockholders who purchase investment securities for their own account.

For both reasons, tax advantage and difficulty of separation of securities, it is to be expected that partnerships would show investment accounts more often than corporate dealers. It is likely, however, that some of the principal stockholders at times have held investment accounts in their own name which do not appear on the corporate dealers' books and therefore are not in evidence in these data.

CURRENT OPERATING EXPENSES

Dealers reported on the following expense items separately: Salaries, interest paid, local taxes, and other current expenses. Interest paid was discussed in detail in the last section of this chapter. Local taxes were very small and will be ignored even though they have been subtracted from income before income taxes. The following section will deal with interdealer differences in salaries and other current expenses charged to gross income.

SALARIES

Salaries paid by the dealers might be analyzed by breaking them down into three categories. Wages and salaries paid to members of the dealers' staff, salaries paid to the partners or stockholders of the firm, and, finally, payments to principals in excess of average executive salaries paid in the industry, and bonus payments. However, no such breakdown is available.

Table VII-9 summarizes salaries in relation to gross earnings, and expressed in dollars per \$1 million sales. The ratio of salaries to gross earnings fluctuates over the 11 years in accordance with the rapid changes in gross earnings. The salary dollar margin is again a measure which allows for more meaningful interdealer and over time comparisons.

For the period from 1948 to 1958, salaries in relation to dollar volume have remained remarkably stable. The ratio varies between a low of \$34.12 in 1950 and a high of \$60.90 in 1957. In these 2 years, absolute dollar amounts paid in salaries by reporting dealers also reach a low and a high, respectively.

TABLE VII-9.—Salaries as percentage of gross earnings and in dollars per \$1,000,000 of sales, all reporting dealers, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Aggregate salaries as percentage of gross earnings.....	26.1	15.4	21.4	20.8	18.3	13.5	13.8	20.2	18.3	10.5	11.2
Salaries as percentage of gross earnings for all individual dealers:											
High.....	34.0	52.6	53.4	40.0	33.8	31.6	74.6	74.6	85.7	36.8	30.7
Low.....	6.0	8.4	8.8	8.7	6.3	2.5	5.5	5.5	2.9	1.1	2.8
Average.....	18.6	24.1	23.2	19.2	15.2	13.2	26.5	26.5	24.0	12.8	13.5
Aggregate salaries in dollars per \$1,000,000 of sales.....	48.71	59.84	34.12	44.30	45.78	50.33	44.23	46.13	51.20	60.90	58.91
Salaries in dollars per \$1,000,000 of sales for all individual dealers:											
High.....	336	620	248	476	146	160	170	300	154	226	170
Low.....	16	18	10	12	16	20	14	12	14	14	12
Average.....	82	110	53	84	60	64	58	64	58	76	70

Firms with negative gross earnings were omitted.

Salaries show an upward trend, which is not surprising in view of generally increasing wages and salaries in most areas of the economy during the period under consideration. Furthermore, the volume of business transacted in the dealer market has doubled during the 11 years. Part of the increase in salary payment has been caused by expansion of the dealers' work force. Average weekly earnings in banks and trust companies, for instance, have increased by roughly 50 percent from 1948-49. If the dealer market expansion required an addition to work force of 50 percent of the 1948-49 employment, salaries should have roughly doubled from 1948-49 to 1958.

The argument might be forwarded that, during adjoining years, salaries have fluctuated more than could be explained by a rising standard of living and expansion of dealer operations. Between 1953 and 1956, for instance, total salary payments had leveled off between \$5 and \$6 million (see table VII-1). They jumped by almost \$3 million between 1956 and 1958—an increase of about 33 $\frac{1}{3}$ percent over the base year. Part of this increase is probably bonus payments.

If estimated bonus payments are compared to total net income for the last 2 years, it is apparent that neither net income nor net profit margins would increase substantially. Rates of return on invested capital would be larger by at most 10 percent of the margin or rate reported.

In table VII-12, below, all salaries paid have been added back into net income before taxes to show in the extreme what the effect on profitability would be if all salaries were part of the profit. Such an assumption of course overstates the profit figure by the total wage and salary bill for clerks, secretaries, administrative help, traders, and executives. But it does put an upper limit on the dealers' rate of return.

The aggregate dollar payment of salaries has exceeded aggregate net income before taxes in 6 of the 11 years. It has been increasing every year. This is an indication that the high reached in 1958 will probably be maintained even in future low income years as long as the level of dealer operations does not decline substantially. For individual dealers, dollar amounts of salaries paid and salary margins

do not display the same stability. Eight of the dealers report reduced salary payments during years of low earnings or losses—1950-51 and 1955-56. Several dealers decreased salary payments in 1956 and 1958. The salary margin decreases even more often for some of the dealers because of fluctuations in sales volume. With a relatively constant amount of salaries paid, any increase in sales volume will lower the margin, any decrease in sales will increase the salaries paid to sales margin.

One of the smaller nonbank dealers shows the highest of all annual salary margins in 10 of the 11 years. Four other small dealer firms account for the four next highest salary margins over the 11-year period. Bank dealers have paid the lowest salaries in relation to their sales volume. Their salary margins have changed very little over the period; they are either at the 1948 level or below. This is surprising in view of the report that some large security dealers are considering entrance into the U.S. securities markets as dealers but cannot do so because of lack of trained personnel.

Finally, there is some evidence of economy of scale in the data for salaries per dollar of transactions. Sales volume for some of the banks has increased more rapidly than dollar amounts of salaries. And, large dealers usually generate higher sales volume per dollar of wage and salary payments.

OTHER CURRENT OPERATING EXPENSES AND SPECIAL CHARGES OR GAINS

Other current operating expenses reflect dealers' outlays on rent, office equipment and supplies, wire service fees, telephone charges, etc. In table VII-10, these expenses are expressed as percentages of gross earnings and in dollars per million dollars of sales. The ratios of other expenses to gross earnings give an impression of the average percentage of earnings absorbed by items in this residual expense category. Between 1948 and 1956, from 11 to 26 percent of gross income was charged off as current expenses. The rapid increase in earnings during the last 2 years makes other current expenses appear deceptively low. The margin of dollar current expenses in a million dollar sales indicates a much more stable relationship between transactions volume and other current expenses. Only in 1950 and 1955 was the increasing trend of the expense margins for the group of dealers interrupted.

TABLE VII-10.—Other current expenses as percentage of gross earnings and in dollars per \$1,000,000 of sales, all reporting dealers, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Aggregate other current expenses as percentage of gross earnings.....	21.2	11.7	22.9	20.9	19.0	14.3	15.8	25.2	21.8	10.8	11.9
Other current expenses as percentage of gross earnings, for all individual dealers:											
High.....	31.4	27.4	39.8	36.2	27.6	25.6	24.9	77.5	95.9	22.6	47.8
Low.....	11.1	6.0	11.2	10.1	8.7	3.2	5.2	7.5	4.6	2.3	3.2
Average.....	¹ 19.1	12.8	22.8	¹ 20.1	17.8	13.0	12.7	30.2	¹ 25.2	11.9	¹ 13.8
Aggregate other current expenses in dollars per \$1,000,000 of sales.....	\$39.56	\$45.47	\$36.51	\$44.51	\$47.53	\$53.31	\$50.64	\$57.55	\$60.99	\$62.64	\$62.59
Other current expenses in dollars per \$1,000,000 of sales, for all individual dealers:											
High.....	288.00	430.00	332.00	502.00	146.00	160.00	158.00	310.00	172.00	206.00	154.00
Low.....	16.00	20.00	10.00	14.00	16.00	18.00	18.00	22.00	20.00	20.00	20.00
Average.....	66.00	80.00	64.00	80.00	54.00	56.00	56.00	70.00	60.00	68.00	66.00

¹ Firms with negative gross earnings were omitted.

The variations from year to year for individual firms are minor. Again, one dealer firm accounts for all of the individual dealers' annual high margins. The bank dealers, with one exception, appear to allocate less of their overall operational current expenses to their Government departments than most nonbank dealer firms actually paid out in relation to sales volume. Firms with the largest sales organization and the highest number of branch offices show most of the higher annual margins. Smaller dealer firms, with one exception, account for lower margins than most of the large nonbank dealers.

Special charges made to income and special gains added to income before income taxes, are presented in the following schedule. The reporting dealers did not indicate what gave rise to these entries. The net income figures used in the following section of this report are adjusted to reflect these items. They are not important in relation to both gross and net income and will therefore be omitted from further discussion.

Special charges¹ and gains, all reporting dealers, 1948-58

[In thousands of dollars]					
1948.....	(¹)	1952.....	(113)	1956.....	110
1949.....	(645)	1953.....	(232)	1957.....	(181)
1950.....	69	1954.....	(317)	1958.....	212
1951.....	285	1955.....	75		

¹ Items in parentheses are not special charges.

SUMMARY

Only one of the three important components of total current operating expenses was strongly influenced by monetary policies and dealer strategies in financing and positioning of securities, namely; interest paid. Both salaries and other current expenses displayed a much higher degree of stability. Where variations occur for the dealers over time and between individual dealers, they are reflections of the expansion of dealer activities and interdealer differences in trading philosophy, methods of operations and size of firm. Where firms had experienced adverse financial developments, effects on salaries showed more strongly than effects on other current operating expenses.

The group of nonbank dealers with substantial operations in other securities markets and the bank dealers had to allocate part of their current expenses to their Government bond departments. On balance and in comparison with the other nonbank dealers, this allocation process seems to have resulted in an underallocation of diversified firms' expenses relative to the expenses of dealers deriving more than 90 percent of their gross earnings from operations in U.S. securities. These latter dealers were not asked to report a breakdown of expenses related to operations in non-Government securities.

Table VII-11 presents selected total earnings and expense data for the 10 diversified dealers. All items in the table are expressed as percentages of gross earnings generated from all operations because no volume figures for these dealers' total transactions are available. From a comparison of table VII-11 with the data in tables VII-9 and 10 it becomes clear that salary and other current expense ratios for the diversified group of dealers are higher and more stable than those for all dealers reporting on earnings and expenses resulting from trading in U.S. securities. This is further evidence in support of the conclusion derived earlier from the analysis of variations in individual dealer expense ratios. It was found there that the bankdealers had lower salary and other current expenses to sales margins and that they charged to their bond departments less interest in relation to sales volume than most of the other dealers. The result of these relative underallocations would be to overstate the net income figure for the dealers as a group.

TABLE VII-11.—*Selected earnings and expense items for diversified nonbank dealers and all bank dealers, 1948-58*

[Items as percentages of gross earnings]

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Interest received.....	38.0	37.6	36.7	29.4	27.2	26.0	27.4	26.1	20.6	17.5	21.5
Trading profits.....	4.8	6.9	6.4	5.0	6.0	6.8	9.7	6.5	5.1	8.0	9.4
Gross earnings.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Salaries.....	28.9	27.7	26.6	26.5	24.8	24.1	24.1	24.7	23.3	22.0	22.5
Interest paid.....	22.5	22.3	22.0	20.0	19.3	19.6	19.5	18.9	18.7	18.3	20.5
Other current expenses.....	45.2	45.2	47.1	49.6	51.5	52.1	51.9	51.6	51.7	53.5	51.6

It has been pointed out that salaries paid might contain bonus payments to principals which could be added back to profits. If such a distribution of earnings is present it is small. Some evidence for this conclusion is given by the income data for all incorporated securities dealers in the "Statistics of Income." All incorporated securities dealers spent 16.3 percent of their total compiled gross receipts during the 11-year period on compensation of officers. This compares with the salary ratios for U.S. securities dealers given in table VII-9, which fluctuated between 26.1 percent of gross earnings in 1948, and 11.2 percent in 1958. In 6 years the salary ratio for the Government dealers exceeded the compensation of officers ratio for security dealer corporations. It must be kept in mind that the salaries paid by the Government dealers contain all wages and salaries paid whereas all incorporated dealers in the "Statistics of Income" reported on officers' compensation only.

NET INCOME BEFORE TAXES

Net income before taxes has been chosen as the basis for measuring dealer profitability to avoid the distorting tax influences introduced by the presence of both partnerships and corporations. Table VII-13 presents net income before special charges and income taxes as a percentage of gross earnings and in dollars per \$1 million of sales. Fluctuations in the ratio of net income to expenses are paralleled roughly by the changes in the ratio of dollar earnings per million dollar sales. Both ratios show that 1950 and 1955 were years during which the reporting dealer group incurred losses.

Table VII-12 relates the net income figures of reporting nonbank dealers to nonbank dealers' capital investment. Some more detail is shown in this table, and the number of dealers showing losses is given. 1955 was a loss year for three of the bank dealers. For this reason, the rate of return on capital of nonbank dealers in table VII-12 is positive in 1955, while all dealers combined (table VII-13) incurred an aggregate loss. Table VII-12 also reflects the effect of special charges and gains which have been omitted from table VII-13.

Further analysis of the net income margins presented in table VII-13 shows the strong impact of monetary policy changes on dealers' net income. The largest numbers of dealers reporting losses is concentrated in years during which monetary policy changed from ease to restraint, specifically 1950 and 1955. Next in number of dealer losses are 1956 and 1951, years during which interest rates continued to rise. On the other hand, the largest dealer profits appear in years during which a policy of ease was introduced or pursued; 1953-54 and 1957-58 stand out as examples.

TABLE VII-12.—Gross and net earnings as percentages of net worth and total long-term financing, all reporting nonbank dealers, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Ratio of gross earnings to:											
Net worth.....	51.0	77.1	45.4	50.8	72.9	101.5	100.0	73.3	104.0	193.7	189.2
Total long-term financing.....	34.5	65.0	40.2	44.7	61.5	82.0	83.7	55.4	72.9	144.4	143.9
Ratio of salaries and net income before taxes to:											
Net worth.....	16.9	33.8	11.2	17.7	23.8	47.5	44.7	18.4	21.0	78.8	99.5
Total long-term financing.....	11.5	28.5	9.9	15.5	20.1	38.3	37.5	13.9	14.7	58.7	75.7
Ratio of net income before special charges or gains and taxes to:											
Net worth.....	1.7	20.3	(.7)	4.9	9.3	32.1	29.1	3.2	.3	57.6	77.1
Total long-term financing.....	1.1	17.1	(.6)	4.3	7.9	25.9	24.4	2.4	.2	42.9	58.6
Median of the ratios of net income after special charges, before income taxes, to total long-term financing for individual dealers.....	2.2	21.5	(12.0)	3.0	12.3	20.8	27.4	(3.4)	(9.9)	29.2	46.2
Ratio of net income after special charges or gains before taxes to:											
Net worth.....	1.8	20.2	(.9)	4.9	9.2	31.7	28.8	3.1	.3	56.9	76.4
Total long-term financing.....	1.2	17.0	(.8)	4.3	7.8	25.6	24.2	2.3	.2	42.4	58.1
Number of nonbank dealers reporting.....	7	9	9	10	10	10	10	10	10	10	10
Number of dealers reporting net losses (including dealer banks).....	1	2	7	5	2	0	0	10	8	3	1

TABLE VII-13.—*Net income before special charges and taxes as percentage of gross earnings and in dollars per \$1,000,000 of sales, all reporting dealers, 1948-58*

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Aggregate income as percentage of gross earnings.....	9.0	27.3	(1.8)	9.2	14.2	34.5	30.6	(6.4)	1.7	33.1	40.6
Incomes as percentages of gross earnings, for all individual dealers:											
High.....	59.0	71.9	68.2	70.0	74.8	75.3	79.4	63.4	70.9	84.8	81.8
Low.....	¹ (1.0)	(24.3)	(59.1)	¹ (30.7)	(37.1)	9.3	1.5	(238.1)	¹ (238.8)	(3.5)	¹ 10.9
Average.....	² 21.7	² 35.7	² 21.3	² 22.3	² 26.2	35.7	35.8	² 34.7	² 35.3	² 42.0	² 37.8
Aggregate income in dollars per \$1,000,000 of sales.....	\$16.80	\$106.09	(\$2.87)	\$19.59	\$35.52	\$128.62	\$98.08	(\$14.62)	\$4.76	\$191.98	\$213.55
Aggregate income before taxes per \$1,000,000 of sales as multiples of 1/2¢ (\$312.50 per \$1,000,000).....	0.05	0.34	-----	0.06	0.11	0.41	0.31	-----	0.02	0.61	0.68
Incomes in dollars per \$1,000,000 of sales, for all individual dealers:											
High.....	\$102	\$4,388	\$94	\$136	\$278	\$452	\$708	\$208	\$164	\$588	\$522
Low.....	(\$474)	(\$92)	(\$494)	(\$2,528)	(\$60)	\$50	\$8	(\$616)	(\$426)	(\$30)	(\$912)
Average.....	-----	-----	-----	-----	-----	\$172	\$170	-----	-----	-----	-----

¹ Some firms incurred negative gross and net earnings and were omitted from high, low, and average ratios.

² Loss ratios omitted in the calculation of average ratios.

The variation in individual dealers' net income margins is considerable in most years, as indicated by the range between high and low margins in table VII-13. In 9 of the 11 years, the low margin is provided by dealers incurring losses. Total net income for the 11-year period was related to their total sales volume over the same time for each dealer. Analysis of this individual dealer average profit margin shows that among the six firms with the highest average net income margin for the entire period were two bank dealers, one small and three large nonbank dealers.

The lowest average profit margin reflects an overall loss for one of the dealers during the 11 years. Of the six firms with the lowest average individual profit margins were three small and one larger nonbank dealers, and two of the bank dealers. Thus, there does not appear to be a definite correlation between size of firm and the magnitude of profit margins over the entire period.

The profit margins discussed here are a measure of relative efficiency of dealer operations. Differences between individual dealer's margin during any given year can be traced back to the contribution of interest received and trading profits, and the charges represented by current expense items. It suffices, however, to state that most of the interdealer differences are caused by differences in their trading profits and interest received—interest paid ratio. All of these are influenced most heavily by changes in monetary policy, but also by dealer efficiency in arranging for relatively low cost financing, turnover rates of positions, composition of position by maturity classes, and, conceivably by discrepancies in dealer accounting procedures.

NET INCOME BEFORE TAXES AND DEALER CAPITAL

Net income is related to dealers' capital to compare dealer earnings with the profitability of other lines of business. In table VII-12 dealers' gross and net earnings are expressed as percentages of their net worth and of their total long-term financing. These two terms were defined and discussed in chapter VI. It was suggested there that for the purpose of calculating rates of return on capital, the total long-term financing concept should be used. Both measures of rate of return have been presented in table VII-12, but the rest of the discussion in this chapter will be based on the rate of return on total long-term financing or "capital base" as it is frequently called.

The number of nonbank dealers⁷ for whom information on both net income and capital was available appears at the bottom of table VII-12. In one case no allocation of expenses to operations in U.S. securities was provided; the second omitted nonbank dealer had such sizable operations in other securities markets that inclusion of his net income from operations in U.S. securities and of his total capital would have resulted in a considerable understatement of dealers' rates of return.

⁷ The scope of the information used in table VII-12 is narrower than that of the data contained in table VII-13 for a number of reasons. The bank dealers had to be excluded from the rate of return calculation because only rough estimates are available of the amount of the banks' total capital which could be considered as committed to their operations in U.S. securities.

Four smaller dealers also reported income from operations in other markets. During most of the years, net income from trading in U.S. securities provided the majority of these firms' net income. All of their capital has been included while only their net income derived from operations in Governments appears in the aggregate net income used as numerator in table VII-12. The following schedule reflects all earnings of these four firms.

Schedule of the ratios of net income after special charges and gains, to net worth and total long-term financing, before income taxes, all reporting dealers, 1948-58

	Net worth	Total long-term financing		Net worth	Total long-term financing
1948.....	2.0	1.3	1955.....	5.4	4.1
1949.....	19.8	16.7	1956.....	2.2	1.6
1950.....	(1.0)	(1.7)	1957.....	58.7	43.8
1951.....	5.3	4.6	1958.....	77.0	58.6
1952.....	9.4	8.0	Average of annual ratios:		
1953.....	31.9	25.8	48 to 57.....	16.2	12.8
1954.....	28.8	24.2	48 to 58.....	21.7	17.0

These adjustments result in ratios only slightly different from the ratios in table VII-12. They are higher than the ratios in table VII-12 in 6 years, lower in 4 years, and are exactly equal in 1 year. The averages presented in the schedule are the averages of the annual ratios. They are somewhat lower than the ratios of total income to total capital over the period. But on the basis of this evidence, the method chosen in compiling table VII-12 appears acceptable.

All ratios in table VII-12 reflect the predominant influence of changes in monetary policy on dealer profitability. Gross earnings as well as net income ratios show large decreases during years of monetary restraint and large increases as results of changes from monetary restraint to monetary ease. This is also reflected in the median of individual dealers' ratios of net income to total long-term financing given for each year. In 3 years, 1950, 1955, and 1956, the median is a loss ratio. Individual dealers' annual ratios of net income to capital base show considerable variations in poor profit years as well as in high profit years.

For the 11-year period, one dealer's rate of return was negative. The 16 dealers with a positive return on capital base showed average rates of return for the entire period ranging from a low rate of about 3 percent to a high rate of about 28 percent. Three dealers realized average rates of return on capital base above 20 percent. Larger dealers were more profitable on balance than smaller dealers, indicating a more efficient use of capital resources as well as the beneficial effect of large and diversified operations which protect the larger firms to some extent from the adverse influences of monetary policy changes.

The ratio of net income plus salaries to capital base, given in table VII-12, merits some further explanation. It provides an upper limit on the profitability of the dealers included in this table if all salaries paid were actually part of the dealers' profit. This assumption is, of course, unrealistic. As stated earlier, salaries paid by the U.S. Gov-

ernment securities dealers include all wages paid to their staffs and their executives. Only if bonuses were paid in some relation to net income could they be considered a part of the firms' profits.

All incorporated securities dealers included in the data provided by *Statistics of Income* paid an average of 7.7 percent of their total long-term investment over the period 1948-58 to their officers as compensation. This does not include payments to their other employees. Salaries paid by the U.S. securities dealers ranged from 10.7 to 17.6 percent of their capital base and averaged about 13 percent. If the assumption is valid that officers of the Government bond houses received compensations comparable to the officers of incorporated securities dealers, this would leave about 6 percent of their capital base for the rest of their payrolls during an average year.

The ratios of net income after special charges and gains, but before income taxes, to net worth and capital base, from table VII-12, also appear at the top of table VII-14. They are presented together with selected rates of return for other industry groups. Toward the bottom of table VII-14 rates of return for three other types of financial institutions appear: (1) all insured commercial banks, (2) all incorporated securities dealers, and (3) financial corporations, including commercial banks, real estate firms, and insurance companies. The ratios available for all insured commercial banks were for net income before taxes. They have been adjusted on the assumption that the average tax rate applicable has been 40 percent.

TABLE VII-14.—Rates of return for selected industry groups, 1948-58

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	Average, 1948-57	Average, 1948-58
Ratio of net income before taxes, reporting nonbank dealers, to net worth.....	1.8	20.2	(0.9)	4.9	9.2	31.7	28.8	3.1	0.3	56.9	76.4	17.1	24.2
Total long-term financing.....	1.2	17.0	(.8)	4.3	7.8	25.6	24.2	2.3	.2	42.4	53.1	13.6	19.1
Ratio of net income before taxes to total equity, selected industry groups: ¹													
1. Apparel.....	16.0	8.9	15.3	8.6	9.1	8.5	7.7	10.2	10.9	9.0	-----	10.4	-----
2. Textile.....	27.0	11.6	20.1	15.2	8.3	8.1	5.1	8.9	9.1	7.4	-----	12.0	-----
3. Leather.....	14.0	9.5	16.4	11.1	12.0	11.4	11.5	15.0	12.8	12.7	-----	12.6	-----
4. Food.....	16.1	15.0	17.6	14.5	13.8	15.3	14.3	16.6	15.7	14.6	-----	15.3	-----
5. Lumber.....	26.6	12.7	26.7	20.4	13.8	11.5	12.3	17.2	11.1	6.3	-----	15.8	-----
6. Scientific instruments.....	21.2	15.9	23.5	28.4	25.3	25.1	24.2	23.4	23.5	20.0	-----	23.0	-----
7. Ordnance.....	18.4	8.5	27.4	30.6	28.9	34.0	26.4	21.5	18.5	19.2	-----	23.3	-----
8. Chemical.....	21.8	19.6	33.0	29.0	21.6	22.2	20.1	26.8	22.7	21.2	-----	23.8	-----
9. Electrical equipment and machinery.....	24.5	17.9	32.1	31.1	29.7	27.8	20.9	20.5	19.7	21.6	-----	24.5	-----
10. Motor vehicles.....	30.3	32.5	49.1	36.4	32.0	28.8	27.2	46.1	24.8	31.7	-----	33.8	-----
11. Incorporated securities dealers.....	2.2	3.8	6.3	4.4	6.2	5.9	11.0	8.3	8.1	7.4	-----	6.4	-----
12. Financial corporations (including insurance and real estate).....	13.0	13.3	14.6	14.3	13.7	13.8	14.5	13.6	12.3	11.6	-----	13.4	-----
Ratio of net income after taxes to total capital funds, all insured commercial banks ²	7.5	8.0	8.5	7.8	8.1	7.9	9.5	7.9	7.8	8.3	9.6	8.1	8.3
Estimated before tax (40 percent) ratio.....	12.5	13.3	14.2	13.0	13.4	13.2	15.8	13.2	13.0	13.8	16.0	13.5	13.7

¹ Source: "Statistics of Income, 1948-57."

² Source: Moody's.

The last two columns in table VII-14 give the average rates of return for the entire period for which data were available. During the period from 1948 to 1957, the U.S. securities dealers realized approximately the same rate of return as the insured commercial banks and the financial corporations. They showed better returns on capital than the incorporated securities dealers even though in 5 of the 10 years the U.S. securities dealers had lower rates of return. During the same 10-year period, the dealers in Governments had a higher average rate of return on capital base than three of the manufacturing groups listed in table VII-14; i.e., apparel, textile, and leather.

The manufacturing groups chosen are those with the five lowest and five highest rates of return on total equity (including preferred stock and all surplus accounts in addition to common stock). The dealers thus achieved an average rate of return on their capital base between 1948 and 1957, which was higher than that realized by the three manufacturing industries with the lowest rates of return of all manufacturing industries. Two of five manufacturing industries with the lowest rates of return had higher rates than the dealers.

This picture changes with the inclusion of 1958. Data for this year raise the average rate of return for the dealers over the 11-year period substantially. Only the top five manufacturing industries realized higher profit rates between 1948 and 1957 than the dealers between 1948 and 1958. Over the 11-year period the dealers also realized higher rates of return than the other financial institutions, especially higher than the rates shown for the incorporated securities dealers. None of the other industry groups, however, show the drastic fluctuations in rates of return which are characteristic of the dealer market.

It is also interesting to observe that the cyclical fluctuations in the rates of the manufacturing corporations reach peaks when the rates of the U.S. securities dealers are at a low point. The automobile industry, for instance, had its best profits years in 1950 and 1955. Both years show losses or very low profits for the dealers. This again supports the conclusion reached earlier, that dealer profitability is determined mostly by changes and direction of changes in monetary policy. They stand to gain from the relaxing of monetary controls during recessions. They realize their lowest profits and highest losses in the late stages of a business boom when monetary controls tighten.

FINDINGS

The factors influencing dealer profitability have been analyzed and discussed. Changes in monetary policy have been found to be the most important causes of fluctuations in dealer profits. One basic question still remains; namely, is the rate of return on dealers' capital competitive enough to keep capital in this market or to attract new funds into it? For the years 1948-56, this question would probably have been answered negatively. The dealers had experienced five poor profit or loss years over the period. The 3 profitable years had not allowed sufficient net income to bring the dealers' average rate of return even close to those realized by commercial banks and all financial corporations. It was competitive, at the 9-year average of 9 percent, only with the rate of return on the capital funds of incorporated securities dealers, most of whom are small firms specializing in corporate securities.

The increased average profitability of the U.S. securities dealers began in 1957. The recession of that year, appropriate monetary policy, and new cash financing by the Treasury combined to increase dealer activity and dealer earnings during 1957-58. Some dealers took advantage of the change in monetary policy by purchasing securities into accounts more heavily. All dealers profited to some extent by the unprecedented sharp drop in money market rates from the high points in late 1957 to the lows of 1958. These changes produced trading profits much higher than those realized by the dealers in 1953. The performance of 2 years improved the dealers' rate of return for the entire 11-year period. If this level of profitability should or could be maintained, other firms and new capital will probably enter the market. There is, however, no assurance that the level of earnings will stay as high in future years, and potential investors will look at dealers' adverse experiences in earlier years as well as at their high profits in the last 2 years.

CHAPTER VIII

OPERATION OF THE DEALER MARKET

The analysis of the data submitted by the 17 Government securities dealers and the description of dealer operations is completed, but the problem of evaluating the performance of this market remains. That problem can be subdivided into four questions.

First, does the market fulfill its obligations to the public at large, and to holders of the Government debt, in a responsible and efficient manner and one consistent with the public interest? To assist in arriving at a consensus about operations within the dealer market, the major findings of this study are summarized below and some questions are raised about possible changes in operating procedures which may lead to an improvement in the manner in which the market functions.

However, as chapter I suggests, a study of the Government securities market should be viewed in terms of the interaction of this market with the economy. For as noted earlier, the market for Government securities is a particularly important source of information about the working of monetary policy and debt management and is a major influence in the saving-investment process. The second, third, and fourth questions are therefore posed within the broader context of the interrelationship between the dealer market and economic stabilization policies.

Can Treasury debt management practices be altered to eliminate some of the observed weaknesses in the dealer market? Can the effectiveness of monetary policy be increased by strengthening the intermediate and long-term market for Government securities? Would such changes improve present policies designed to promote economic stability?

These broader questions are not considered here. But it is likely that fruitful suggestions for improving the functioning of the market can be obtained by examining debt management practices and monetary policies. Some possibilities along these lines were noted in chapter III and in the introduction to the study.

SUMMARY OF THE MAJOR FINDINGS

The market for U.S. Government securities is composed of 17 over-the-counter dealers. Measured by the value of total purchases or sales, it is the largest security market in the country. In 1958 alone, the volume of transactions in the dealer market was more than five times larger than the total trading volume on the New York Stock Exchange. The major part of this volume was handled by 6 of the 17 firms during most of the period covered by this study. However, there has been no apparent tendency for concentration, measured by share of market, to increase.

Aside from their common activity—providing a market for the Government's marketable debt—differences between dealer firms are more notable than similarities. Five of the dealer firms are banks; the others range from multidepartment securities houses to small specialists in Government issues. Even within the Government securities market, differences between dealers are readily observed. Some dealers tend to specialize in particular maturities. Some are quite active in the intermediate-term market for notes and bonds; a few appear to engage extensively in the long-term bond market. But almost all dealers actively trade in the short-term market and bid in the weekly Treasury bill auctions.

Dealers make markets by quoting firm prices or spreads at which they are willing to buy or sell. But small dealers often concentrate on interdealer trading and transactions with the trading desk at the Federal Reserve Bank of New York. Large dealers are both relatively and absolutely more active in trading with institutional investors and other holders of the publicly owned marketable debt.

In addition to size of firm, several suggested explanations related to the internal operations of the firm were advanced to account for differences in dealer positions and composition of trading volume. Differences in dealer philosophy and attitudes toward risk were noted in several sections. The latter point is particularly important in view of the increase in the risk of holding a given dollar amount of securities as maturity increases and in view of the relatively high leverage ratios of most dealer firms. Other proposed explanations of differences between individual dealers were based on factors external to the firms. Principal among these were those difficulties which reflect the problems of debt management and economic stabilization policy.

In chapter VI, it was estimated that dealers had committed \$100 million in aggregate capital to the market by 1958. Capital increased over the 11-year period of observation despite temporary reductions due to losses and retirements. But capital per dollar of transactions or per dollar of net position declined.

A principal reason for the relative decline in capital was discussed in chapter VII where the earnings and expenses of dealer firms were presented. For the years from 1948 to 1956, the rate of return on dealers capital was low relative to the amount of risk involved and was less than the average rate of return earned by commercial banks and all nonfinancial corporations. As a result, retained earnings were relatively low and new capital was not attracted.

The profitability of the dealer market increased in 1957 and 1958 with the advent of recession. As in previous postwar recessions, realized spreads increased as interest rates rose. Some dealers purchased securities for their investment accounts when monetary policy changed. The earnings for these 2 years (1957-58) increased the dealer's rate of return for the period 1948-58 to the level of some of the more profitable manufacturing industries and above the level of all commercial banks. However, in the light of the evidence of chapter VII, it is likely that the combination of relatively low rate of return, high risk, and small profit per dollar of sales in most years discourages new firms from entering the Government securities business.

The search for borrowing rates below the interest rate earned on their commitments is a critical part of any effort by dealers to increase their profitability. During tight-money periods, some dealers are particularly adept at finding temporarily idle balances available at rates lower than those charged in New York. The regrowth of repurchase agreements has been one of the principal means by which this has been accomplished. In the process dealers bring idle balances to the money market and spread the effects of monetary policy to other parts of the country.

Nevertheless, the available information suggests that financing commitments remain the primary problem of dealer operations. Improvements in this area which do not result in larger increases in the money supply than would otherwise occur would speed the adjustment of interest rates to new economic conditions and facilitate the positioning of securities in dealer inventories. Smaller dealers in particular would probably benefit from the establishment of a lender of last resort willing to lend at market rates of interest. Additional study of this subject and the release of the report by the clearinghouse banks would make possible the development of improved financing for this market.

Furthermore, investigation of arrangements to improve opportunities to borrow securities for short sales should be made. And changes can be made to prevent rapid falls in the prices of securities which occur as a result of forced selling and margin calls. Higher margin requirements on repurchase agreements to dealers and investigation of the effective margin on collateral loans and repurchase agreements to nondealers were suggested in chapter V as possible means of strengthening the market.

It is difficult to summarize the overall performance of the market succinctly since changing economic conditions make any conclusion about operating procedures inapplicable at particular times. Interest rates, the present and expected level of economic activity, the availability of bank reserves, the advent of new Treasury offerings, and a host of other factors must be considered in addition to those mentioned above. However some general conclusions can be drawn with respect to the various maturity classes.

At the short end of the market, the evidence strongly suggests that active competition prevails. Securities turn over rapidly at narrow price spreads. Dealer trading profits per dollar of sales are small. Many informed buyers and sellers take positions on either side of the market as prices change throughout the day. A sudden fall in the price of short-term securities quickly brings new buyers into the market; a rise in the price attracts new sellers. Dealer operations permit this active trading to take place. They are willing to hold large inventories and to execute transactions of \$50 million or more for a single customer at their own risk. In short, the dealers are at the center of a highly competitive, efficient trading market.

In the 1 to 5 year maturity range, the performance of the market continues to be good. A large volume of outstanding securities is available. Many of the dealers actively trade and are willing to take positions, long or short, to accommodate the requirements of buyers or sellers. Spreads remain relatively small and competitive conditions prevail.

The further one moves through the maturity range toward the long end, the lower the probability of finding the conditions just described. Fewer dealers operate in the longer term markets. Those that do often feel that they must act as brokers rather than dealers. At times, only one or two large dealers are willing to take the risk of quoting prices and making markets. The size of orders which can be executed at quoted market prices becomes small. Quoted price spreads widen; activity declines; the efficiency of market operations falls; price discontinuities are common.

The basic weaknesses of the longer term market are principally reflections of the debt management problem and do not appear to be capable of correction solely through the efforts of the dealers. For example, in chapters III and IV, the relationship between dealer positions and transactions on the one hand and debt management on the other was noted. The available data there suggest that the small size of many long-term issues and the frequency of Treasury refundings reduce the size of dealer positions and the marketability of these Government securities. Other Treasury practices, e.g., maintenance of extremely small average cash balances, probably lead the Treasury to be unduly concerned with the amount of "attrition" (exchanges for cash) when it is refunding debt. Heavy attrition on a particular refunding and a low cash balance requires the Treasury to return to the market with an additional offering at an early date.

Solution of the major problems of the dealer market would require going beyond the question of the performance of the dealers. As noted in the introduction, it is difficult to study the dealer market separate from the performance of debt management and monetary policy. For where the marketing of Government bonds is handled in a well organized manner, the secondary market performs well. But when the marketing process for Government securities encounters difficulties, secondary trading of existing Government securities becomes less efficient.

